

COUNTY BOROUGH OF SUNDERLAND.



REPORT

BY THE

MEDICAL OFFICER OF HEALTH

SHOWING THE

*Systems adopted for the Removal of Excreta
in Sunderland,*

AND THE PRINCIPAL TOWNS IN THE UNITED KINGDOM,

WITH THE

MORTALITY FROM TYPHOID FEVER, DIARRHŒA, AND ALL CAUSES
IN THESE TOWNS ;

ALSO, A

REPORT and ESTIMATE, by the BOROUGH ENGINEER,

ON THE COST OF CONVERTING THE PRIVY-MIDDENS, &c.,

AND A

*JOINT ESTIMATE, by the BOROUGH ENGINEER and the
MEDICAL OFFICER OF HEALTH,*

OF THE SAVING TO THE CLEANSING DEPARTMENT BY THE ADOPTION
OF THE WATER-CARRIAGE SYSTEM FOR ALL
PROPERTIES.

Prepared and Printed by order of the Health Committee.

Sunderland :

HERALD AND DAILY POST GENERAL PRINTING WORKS, WEST WEAR STREET.

1897.



COUNTY BOROUGH OF SUNDERLAND.



REPORT

BY THE

MEDICAL OFFICER OF HEALTH

SHOWING THE

*Systems adopted for the Removal of Excreta
in Sunderland,*

AND THE PRINCIPAL TOWNS IN THE UNITED KINGDOM,

WITH THE

MORTALITY FROM TYPHOID FEVER, DIARRHŒA, AND ALL CAUSES
IN THESE TOWNS ;

ALSO, A

REPORT and ESTIMATE, by the BOROUGH ENGINEER,

ON THE COST OF CONVERTING THE PRIVY-MIDDENS, &c.,

AND A

*JOINT ESTIMATE, by the BOROUGH ENGINEER and the
MEDICAL OFFICER OF HEALTH,*

OF THE SAVING TO THE CLEANSING DEPARTMENT BY THE ADOPTION
OF THE WATER-CARRIAGE SYSTEM FOR ALL
PROPERTIES.

Prepared and Printed by order of the Health Committee.

Sunderland :

HERALD AND DAILY POST GENERAL PRINTING WORKS, WEST WEAR STREET.

1897.



REPORT.

TO THE CHAIRMAN AND MEMBERS OF THE HEALTH COMMITTEE OF THE SUNDERLAND TOWN COUNCIL.

GENTLEMEN,

Before considering the question of excreta-removal in Sunderland it may be well to glance at the experience of other towns.

It should be stated at the outset that the open privy-midden or cesspool, with its constant pollution of air and soil, and its pollution of the streets at emptying times, is without defenders.

Systems of
excreta-removal
adopted in other
large towns.

Dr. Boobyer, in a report made to the Nottingham Health Committee in December, 1894, published the results of information received from 78 towns, and stated that only four towns on this list openly advocated the continuance of conservancy or dry systems in any form, namely, Hull, Rochdale, Warrington, and Darwen.

In Hull the closets consist mostly of small cemented receptacles, which are emptied every week by contractors. The difficulties and nuisances arising from the collection of the night-soil led to the appointment of a special sub-committee, which made a report in April, 1893. In the opinion of the Medical Officer of Health of Hull the water-carriage system is to be preferred to all other systems of disposal.

In Rochdale, Warrington, and Darwen the pail system is in operation. In Rochdale the pail system is said to work very well. The full pails, fitted with air-tight lids, are removed during the day-time, and clean empty ones substituted for them. The contents of the pails are manufactured into manure, by which means a good deal of the cost of collection is recovered.

The pail system.

In Halifax the Goux pail system has worked fairly well. In Huddersfield the pail system gave satisfaction from a sanitary point of view, but the Council have been lately considering the advisability of converting the pails to water-closets and paying part of the cost of conversion, chiefly, I believe, on account of the expensiveness of the system. Leicester, Birmingham, Manchester, Nottingham, Oldham, and other towns have deserted the pail system for water-carriage.

Systems of ex-
creta-removal
adopted in
other towns.

Appended to this report is a table showing the systems of excreta-removal adopted in a large number of towns. A great part of the information in this table is taken from Dr. Boobbyer's report before referred to, but I have added several other towns, some more recent information, and the average death-rates in the different towns from all causes, Typhoid Fever and Diarrhœa for the six years, 1890-1895 inclusive. It will be seen, on consulting this table, that a large proportion of the towns are entirely water-closet towns, and that many of the remainder are in process of conversion. Part of the cost of conversion is being borne by the Corporation in the following towns:—Accrington, Hanley, Burslem, Leeds, Sheffield, Stafford, Ashton-under-Lyne, Bolton, and Southport. Leicester has made, and Oldham is making, arrangements for paying part of the cost of conversion, while several other towns have the matter under consideration.

Association of
the prevalence
of
privy-middens
and the
prevalence of
the
filth diseases—
Typhoid Fever
and Diarrhœa.

The effect most likely to be produced on the health of a community by inefficiency in the method adopted for the removal of excreta is an increased prevalence of the so-called filth diseases, Typhoid Fever and Diarrhœa. To these may be added Continued Fever, which usually means ill-defined Typhoid Fever.* Tables A and B show the death-rates from these causes and all causes in 24 water-closet towns, and 33 towns in which the number of privy-middens is more than 5 per cent. of the population.† It will be noticed that the average "Fever" rate in the privy-midden town is nearly double that in the water-closet town, that the average Diarrhœa rate in the privy-midden town is slightly more than double that in the water-closet town, and that the average general death-rate in the privy-midden town is 2·4 per 1,000 higher than that in the water-closet town. Here, again, the rates given are the averages for the years 1890-95 inclusive.

Water-closet
towns.

Among the water-closet towns Dublin shows a high rate for "Fever." The cause given for this by the Medical Officer of Health (Sir Charles Cameron) is the saturation of the soil by the privy-middens, which, until recently, existed in large numbers, and from the effects of which the soil has not yet had time to recover. Liverpool, too, shows a high rate both for "Fever" and Diarrhœa. In estimating the value of the Liverpool rates for purposes of comparison, it must be borne in mind that, until last year, when Greater Liverpool was formed, the Urban District of Liverpool had no suburbs, and was, by far, the most densely-populated Urban District in the United Kingdom. In some of the Liverpool slums about to be dealt with the death-rate has ranged from 30 to 79·6 per 1,000, and exactly one-sixth of the "Fever" deaths during 1890-95 were due to the now almost extinct Typhus Fever—a disease peculiarly the result of destitution and overcrowding, but which has no special relation to excrement nuisances.

* Typhus Fever is also included under the term "Fever," but is so rare that the "Fever" death rate usually means the Typhoid Fever death rate.

† The towns in Tables A and B are not selected, but are all the towns taken from the big Table which answer to one of the above description,

It will be noticed that Sunderland comes first on the list for "Fever" prevalence, and that Widnes comes in a close second. In this connection it is of interest to note that a Local Government Board Enquiry has just been held at Widnes on account of the prevalence of Typhoid Fever there, and that the result of the enquiry has been the absolving of the water supply (which is from deep wells) and the sewers, and the severe condemnation of the privy-middens by the Local Government Board Inspector, Dr. Bruce Low.

Privy-midden
towns.

Belfast stands third on the list for "Fever" prevalence, and also has a high Diarrhœa rate, and a high percentage of privy-middens. The special committee appointed by the Corporation to enquire into the causes of the high death-rate in Belfast has just issued its report. The Committee recommend, amongst other things, the substitution of water-closets for privies.

TABLE A.

List of Towns in which the number of Privy-Middens exceeds or approximates 5 per cent. of the Population.

Name of Town.	Percentage of Privies to Population.	AVERAGE ANNUAL DEATH RATES PER 1,000 (1890-1895).		
		From all Causes.	From Fever.	From Diarrhœa.
Aston Manor	14	16·3	·13	1·5
Ashton-under-Lyne	10	22·9	·21	·83
Barnsley	11	22·0	·42	1·44
Belfast	11	25·1	·57	1·12
Bolton	12½	22·9	·29	1·32
Bradford ..	13	19·8	·15	·87
Burnley	5	21·5	·26	1·48
Burslem	12	22·3	·19	1·18
Chatham	11	17·9	·18	·5
Darlington	16	16·6	·32	·67
Derby	7½	17·6	·18	·67
Dudley	10½	21·9	·20	·9
Gateshead	7	19·7	·25	1·03
Hanley.....	6	19·9	·27	·88
Hull ..	22*	20·0	·24	1·33
Ipswich	16	19·7	·18	·9
Leeds	5	21·0	·22	1·09
Middlesbrough	4½	20·1	·42	·89
Norwich	11½	19·6	·26	·87
Preston	17½	25·0	·31	2·23
Rotherham	7½	17·8	·42	1·20
St. Helens	6½	22·4	·48	1·26
Salford	7	24·0	·39	1·3
Scarborough	23†	18·1	·24	·66
Sheffield	6	21·7	·22	1·20
Smethwick	21	15·2	·14	·38
South Shields.....	12½‡	20·2	·24	·93
Sunderland	10§	22·3	·62	1·2
Stockport.....	8	23·9	·27	1·47
Walsall.....	9⅓	20·1	·21	1·25
West Bromwich	11⅓	24·3	·25	1·12
Widnes	16⅔	21·2	·62	·9
York.....	11½	18·4	·34	1·26
Average.....	...	20·7	·26	1·08

* Mostly small cemented receptacles.

† Including some with moveable pans.

‡ More than ¾ of them have small cemented receptacles.

§ About ¼ of these are cement-bottomed roofed ash-closets.

TABLE B.*List of Water Closet Towns.*

NAME OF TOWN.	AVERAGE ANNUAL DEATH RATES PER 1,000 (1890-95).		
	From all causes.	From Fever.	From Diarrhoea.
London	20·2	·14	·64
Edinburgh	18·3	·15	·26
Dublin.....	26·1	·44	·7
Bristol.. ..	18·9	·10	·44
Bournemouth.....	13·8	·07	·23
Brighton.....	18·2	·10	·64
Cardiff.....	19·3	·14	·76
Carlisle	19·6	·08	·28
Cork	23·3	·22	·46
Cheltenham	16·9	·10	·25
Coventry.....	17·6	·12	·63
Croydon	15·2	·09	·44
Eastbourne.....	13·0	·06	·59
Exeter.....	20·0	·21	·32
Hastings.....	15·2	·06	·19
Leamington	16·9	·04	·16
Liverpool	25·9	·37	1·09
Oxford.....	15·3	·04	·3
Plymouth	20·6	·17	·62
Portsmouth	18·1	·25	·78
Walthamstow.....	15·2	·17	·7
West Ham	17·9	·21	·81
Willesden	14·1	·11	·59
Worcester	20·2	·17	·6
Average.....	18·3	·15	·52

St. Helens comes fourth on the list for "Fever" prevalence. Up till 1884 all houses in St. Helens, with the exception of a few having water-closets, were on the privy-midden system. Since 1884 the pail system has been gradually introduced. The average annual death-rate per 1,000 from Typhoid and Continued Fevers for 1870-83 was $\cdot 73$, and for 1884-95 was $\cdot 59$. Dr. Robertson, in his 1895 report, expresses the opinion that the soil plays a very important part in the spread of Typhoid Fever in St. Helens, and says:—"There still remains an enormous number of privies in St. Helens, nearly all of which are a standing danger to the public health."

Middlesbrough has a high "Fever" death rate, and, in consequence, a Local Government Board inquiry was held there in June, 1896. Middlesbrough, like Sunderland, is largely built on the clay. The following is the Summary of the Inspector's Report:—

SUMMARY.

1. Enteric Fever has for some years been unduly prevalent in Middlesbrough.

2. Though during the last few years there has been at times seasonal increase of the disease in the autumn months, yet, of late, the disease has tended to persist throughout the year.

3. The endemicity of Enteric Fever in the Borough appears to be associated with the methods of excrement removal, particularly with the privy-midden system; and with defects in sewerage.

4. The existenee of over 3,000 privy-middens in the town, in proximity to dwellings, is a continual source of pollution of the soil and the air of the place, and affords favourable conditions for fostering a filth disease like Enteric Fever, while the befoulment of the street surface during the process of emptying constitutes an additional source of danger.

5. The defects in the sewerage system permit of flooding of houses and streets in certain portions of the town by diluted sewage under certain conditions of coincident high tide and heavy rainfall.

July 20th, 1896.

R. BRUCE LOW.

Dr. Eustace Hill, in summarising the reports of the various Medical Officers of Health in the County of Durham for 1895, says:—"Without doubt the continued high mortality from Typhoid Fever and Summer Diarrhœa in the County of Durham, which has procured for it an unenviable notoriety, is very largely due to the midden-privy system of excrement disposal which is so generally condemned by the sanitary advisers of the local authorities."

Dr. Littlejohn expresses himself similarly in his 1895 report, with regard to the influence of the privy-middens, on the Typhoid Fever prevalence in Sheffield.

Dr. Porter, of Stockport, in his 1894 report, after drawing attention to the influence of privy-middens in disseminating Typhoid Fever, says :—" I have also commented upon the terribly excessive mortality from Infantile Diarrhœa, which persistently inflates the Stockport death-rate ; and I desire to place on record my opinion that, without any manner of doubt, it will continue to do so as long as wholesale pollution by leakage from midden-privies continues to supply the soil with the putrid excremental matter known to be so favourable to the life processes of the micro-organism associated with this malady."

A Local Government Board Enquiry has lately been concluded as to the cause of the prevalence of Typhoid Fever at Southend-on-Sea. During seven years there were no less than 811 cases of Typhoid Fever, the estimated population being 18,000. Dr. Low, in his report, having passed in review all the sanitary circumstances of Southend, comes to the conclusion that the endemic prevalence and seasonable development of Typhoid Fever in the place are due to sustained befoulment of the superficial soil.

As the introduction of the water carriage system into a town usually goes hand in hand with other sanitary improvements, it is generally impossible to estimate the effect due to that cause alone.

The following list is, however, taken from Dr. Buchanan's report to the Privy Council in 1866 on the results of sanitary improvements in various towns, and shows the change in the Typhoid death rate subsequent to these alterations, the substitution of water-closets for privy-middens being one of the alterations mentioned in every case :—

Effect of the introduction of the water-carriage system in reducing the Typhoid Fever death rate.

TABLE C.

TOWN.		Change in Typhoid Death Rate per 10,000 annually.	Degree of Change.
Reduction exceeding Half.	Salisbury	From $7\frac{1}{2}$ to $1\frac{3}{4}$	-75 p. c.
	Croydon	" $15\frac{1}{2}$ " $5\frac{1}{2}$	-63 "
	Ely	" $10\frac{2}{3}$ " $4\frac{1}{2}$	-56 "
	Ashby	" $13\frac{1}{2}$ " $5\frac{3}{4}$	-56 "
	Brynmawr	" $23\frac{1}{2}$ " $10\frac{1}{4}$	-56 "
	Penrith.....	" 10 " $4\frac{1}{2}$	-55 "
Reduction between one-third and one-half.	Warwick	" 19 " 9	-52 "
	Leicester	" $14\frac{2}{3}$ " $7\frac{3}{4}$	-48 "
	Banbury	" 16 " $8\frac{1}{2}$	-48 "
	Morpeth	" $16\frac{1}{2}$ " 10	-40 "
	Cardiff	" $17\frac{1}{2}$ " $10\frac{1}{2}$	-40 "
	Cheltenham	" $7\frac{1}{3}$ " $4\frac{2}{3}$	-37 "
	Newport	" $16\frac{1}{3}$ " $10\frac{1}{3}$	-36 "
	Dover	" 14 " 9	-36 "
Reduction trivial. Slight increase.	Alnwick	" $13\frac{1}{2}$ " $8\frac{2}{3}$	-36 "
	Bristol	" $9\frac{2}{3}$ " $6\frac{1}{2}$	-33 "
	Rugby	" 10 " 9	-10 "
	Carlisle.....	" 10 " $9\frac{3}{4}$	- 2 "
	Chelmsford	" 12 " $12\frac{2}{3}$	+ 5 "
	Penzance	" $7\frac{1}{2}$ " 8	+ 6 "

The following table is taken from the report on this subject in 1895, by Dr. Tattersall, of Oldham :—

DECEMBER, 1894.

	SOUTHPORT.	CARDIFF.	COVENTRY.	BURNLEY.
1.—Has the adoption of the Water Carriage System of removal of excreta had any influence on the death rate of your Borough?	No Reply.	I am of opinion that it has assisted in the reduction of the death rate.	It has had a very material effect on the death rate.	Not much.
2.—What was the death rate before its adoption?	22·9.	32·7. (Mem. 10 years, 1845-54).	27·0.	22·25.
3.—What was the death rate in 1893?	16·8.	19·6.	Average 10 years 1884-93, 18·0. In 1894 = 16·0.	22·0
4.—Has the adoption of this system resulted in any saving to the Corporation?	Expense per head of Refuse disposal has greatly diminished.	Yes.	A large saving.	Yes.

Many Medical Officers of Health have pointed out the greater incidence of Typhoid Fever on houses supplied with privy-middens and badly managed pail-closets than on those supplied with water-closets. Dr. Priestly gives the following statistics for Leicester :—

	Average Death Rate.	Average Zymotic Death Rate.
1865-74 (Privies and Defective Sewerage)	25.51	5.60
1875-84 (Privies and Pails and better Sewerage)	22.64	4.31
1885-94 (Pails and W.C.'s and still better Sewerage) ...	18.42	2.79

Dr. Alfred Hill states that the experience of Birmingham is similar to that of Leicester, and that the reduction of Typhoid Fever in Birmingham has been in direct proportion to the reduction of the privy-middens and pans and the substitution for them of water-closets. He also finds that the Typhoid Fever attack-rates for houses provided with privy-middens, pan-closets, and water-closets respectively, are in the proportion of 3, 2, and 1.

The present Medical Officer of Health for Leicester gives the following figures in his 1895 report :—

Year.	Pails and Privies.	No. of Typhoid Cases.
1893	8,004	222 or 27.7 per 1,000
1894	7,479	116 or 15.5 per 1,000
1895	7,075	95 or 13.5 per 1,000
Year.	Water-Closets.	No. of Typhoid Cases.
1893	18,000	185 or 10.3 per 1,000
1894	19,000	107 or 5.6 per 1,000
1895	20,000	153 or 7.6 per 1,000

The following table is taken from the Report of the Local Government Board Inspector on the prevalence of Typhoid Fever in Middlesbrough :—

TABLE

SHOWING THE NUMBER OF HOUSES SERVED BY PAN-CLOSETS, BY MIDDEN PRIVIES, AND BY WATER-CLOSETS IN MIDDLESBROUGH IN 1896, with THE INCIDENCE OF ENTERIC FEVER CASES ON HOUSES SERVED BY ONE OR OTHER METHOD DURING THE LAST FIVE YEARS.

	Total Number.	Enteric Fever Attacks in Houses of each Class during the last Five Years.	Enteric Fever Attacks per Cent. of Houses in each instance.
Houses served by ashpans	8,502	603	7.09
„ „ midden privies ...	3,274	320	9.77
„ „ water-closets.....	1,296	21	1.62
Total	13,072	944	7.22

Summary.

The experience, opinions, and practice of other large towns show: firstly, that the only systems of excreta-removal which have hitherto given satisfaction in large towns are the water-carriage system, and, in a few instances, a pail system similar to that in use at Rochdale; and secondly, that the association of the prevalence of Typhoid Fever and Diarrhœa with the prevalence of privy-middens is too frequent to be merely accidental.

When we turn to Sunderland we find both an excessive prevalence of Typhoid Fever and Diarrhœa and an excessive prevalence of privy-middens.

Typhoid Fever
in Sunderland.

Firstly, as to Typhoid Fever prevalence in Sunderland. The following table shows a comparison of the "Fever" death-rate per 100,000 of the population in Sunderland and in the Registrar-General's large towns during the last six years:—

Year.		Sunderland.		The Large Towns.
1890	... ..	35	.. ...	19
1891	.....	40	.....	20
1892	.....	43	.....	15
1893	.....	98	.....	24
1894	.....	60	.....	19
1895	.....	96	.....	20
		—		—
Average		62	.....	19½

The next table shows the "Fever" attack-rate, or sickness-rate, per 100,000 of the population for Sunderland, and the average for all the towns, given in the annual report of the Medical Officer to the Local Government Board. These towns number 81 for 1892 and 1893, 83 for 1894, and 123 for 1895.

Year.		Sunderland.		Average of Notification Towns.
1892	.....	340	.....	87
1893	... ..	730	.....	150
1894	.....	520	.....	110
1895	.....	720	.....	130

During the whole of 1895 Typhoid Fever was again very prevalent in Sunderland, and 840 cases were notified with 129 deaths. In 1895 the usual Autumnal increase in Typhoid Fever prevalence was accentuated, as is shown by Mr. T. W. Thompson's memoranda, by a milk epidemic. The investigation of the milk supply of the sufferers showed that 185 of the cases had been supplied with this particular milk, and that 82 additional cases had been in the habit of using condensed milk, and occasionally getting milk from hawkers. Even if we assume that not only the 185 cases who were supplied with this milk, but also the 82 who occasionally got milk from hawkers, derived Typhoid Fever from this particular infected milk supply, there still remain 573 cases of Typhoid Fever notified during 1895, which are sufficient to give a higher sickness-rate from Typhoid Fever than that which occurred in any other large English town, as the subjoined table shows.

The following rates are calculated from the Weekly Returns sent to the Local Government Board. They show the number of cases of sickness from Typhoid Fever per 1,000 of the population in each of the great towns during 1895 :—

TOWN.	No of Cases of Typhoid Fever notified.	Sickness—Rate per 1,000 of the Population.	TOWN.	No. of Cases of Typhoid Fever notified.	Sickness—Rate per 1,000 of the Population.
London	3513	·79	Manchester	505	·96
West Ham.....	315	1·26	Salford	383	1·83
Croydon	45	·39	Oldham.....	108	·76
Plymouth	28	·31	Burnley.....	106	1·06
Bristol.....	87	·38	Blackburn	117	·91
Cardiff.....	80	·51	Preston.....	127	1·12
Swansea	160	1·64	Huddersfield	60	·60
Wolverhampton	126	1·46	Halifax.....	59	·62
Birmingham	433	·88	Bradford ...	117	·78
Norwich	223	2·08	Leeds	414	1·04
Leicester.....	265	1·36	Sheffield	480	1·40
Nottingham	428	1·88	Hull	287	1·32
Derby ...	96	·95	Gateshead	129	1·34
Birkenhead	176	1·64	Newcastle-on-Tyne	221	1·06
Liverpool	1169	2·31	St. Helens	257	3·2
Bolton.....	217	1·81	*Sunderland...	573	4·37

In the third quarter of 1896, Sunderland again comes first among the 33 great towns for its "Fever" death-rate. The Registrar-General's report shows that the average death-rate from Typhoid Fever in the 33 towns for that quarter is ·21, while the rate in Sunderland for the same period is ·66, or more than three times as great.

Secondly, there can be no doubt but that the 10,700 large open privy-middens in Sunderland represent a serious danger to the public health. They cover about 10 acres, and the contents of most of them are continually soaking into the ground. The paving of the surface of the adjacent ground will prevent that aeration of the soil which is necessary for its purification, and in many places, where the privy-middens are crowded together, the soil must be becoming more and more sewage-logged every year, a condition of things which will be aggravated by the clay subsoil. As few of the houses have concreted sites, the chief outlets for the ground air will be under the floors of the houses, the warmth of which will cause an updraught. No one would hesitate to condemn the building of a house on a sewage-logged site, and what other effect can a leaky privy-midden in close proximity to a house have but to render the site sewage-logged? In addition to the pollution of the soil, there is the constant pollution of the air by

Privy-middens
in Sunderland.

* In the case of Sunderland, the 173 cases before referred to have been subtracted.

the effluvia from the privy-middens, which have no arrangement for securing the co-mingling of the ashes and the excrement. A walk along some of our back streets between the rows of privy-middens will convince the most sceptical that this is no imaginary nuisance.

Again, we have the unavoidable pollution of the streets at cleansing times, with the subsequent opportunities for air charged with midden dust finding its way into milk-cans, &c., or down the throats of the passers-by. Those who go to work early in the morning will appreciate most the nuisance caused by the pitching-out into the street of the contents of a high-hatched ash-pit.

Other nuisances incidental to the Sunderland system of excreta-removal are caused by the discharging of the contents of the ash-pit carts into the hoppers and the retention of the loaded hoppers in the river, when the weather prevents them from going to sea. These latter nuisances must inevitably be increased in the near future, owing to the extreme difficulty in obtaining tips in the neighbourhood which are not sources of complaint.

However, probably no one doubts that the privy-middens ought to be converted into some form of closet, which will no longer pollute the air, the soil, and the streets. The question is, into what kind of closet ought they to be converted. The best friends of the newer ash-closets will hardly contend that they fulfil these three requirements of not polluting the air, the soil, and the streets.

They are an immense improvement on the old privy-middens, because they have cemented bottoms, and therefore do not pollute the soil; they also keep out the rain water, and as their contents can be shovelled straight into the cart they do not foul the streets much when emptied. But they are very difficult to ventilate satisfactorily—they entail the objectionable night scavenging, the hinges and catches of their hatches are continually being broken and their contents discharged into the back street, and, in the summer time especially, they often contain insufficient ashes to soak up the urine, so that there is a residuum of foul liquid left in after cleansing. Besides this, a shoot into a dark receptacle is too great a temptation for persons who have slop-water and kitchen refuse to get rid of.

Pail system.

As was pointed out before the only systems that have given satisfaction in other large towns are the water-carriage system and a pail system such as that in use at Rochdale. One objection to the latter system is its cost. Its success financially seems to depend on the sale of the manure manufactured from the pail contents.

In Dr. Tattersall's report the cost of the system in Rochdale, for a population of 71,401, is given as £8,984.

In Nottingham, for a population of 215,000, the cost was £18,000.

In Oldham in 1893, for a population of 136,000, the pail system cost £13,479, of which £4,200 was recovered by the sale of manure, leaving a net cost of £9,279.

Few towns, as we have seen, have been content to remain at the pail system stage of evolution. On the other hand the experience of nearly all the important towns in the United Kingdom speaks in favour of the water-carriage system.

Water-carriage
system.

The system includes three kinds of closets, viz.: ordinary water-closets, waste-water-closets, and trough-closets.

The principal objections to an *ordinary water-closet* are:—

Ordinary water-
closets.

- (1.) The cost of the water.
- (2.) Its liability to freeze.
- (3.) Its liability to be misused or blocked by improper things being thrown down it.

As to (1.) The reasonableness of the rates charged by the water company for water-closets in tenemented property might require consideration.

As to (2.) The supply pipes of the cisterns can all be furnished with stop-taps, and if, taking an extreme view, the cisterns and supply pipes are frozen for a few weeks every year, the water closets would be temporarily converted into hand flushed ones, such as are in use in Devonport, Reading, Northampton, and other places all the year round.

As to (3.) Are we to assume that the population of Sunderland is so greatly inferior in intelligence to the populations of Cardiff, Plymouth, Portsmouth, Coventry, Liverpool, and other entirely water-closet towns? As tending to show that this objection is not a very serious one I may say that I have lately visited about 150 water-closets in the poorest localities in Sunderland, including Covent Garden Street, Spring Garden Lane, Flag Lane, New Grey Street, Old Grey Street, Nesham Square, Maling's Rigg, Silver Street, Minorca, Vine Street, Ettrick Place, Cross Place, Sans Street, Walton Place, &c., and found only one of the 150 not in working order, and that one was used by seven tenants and over thirty persons.

The experience of the Sanitary Inspectors show that when the water-closets give trouble it is generally for one of the following reasons:—

- (1.) Insufficient lighting of the closet.
- (2.) Inefficient flush, generally owing to the insufficient size of the flush pipe.
- (3.) Too few closets for the number of tenants.

There can be no doubt, firstly, that in the past water-closets have often been put in most unsuitable positions, for example, in dark cellars; and secondly, that there is a very great difference between a modern water-closet and an old fashioned pan water-closet with its inadequate flush, as regards the liability to get out of order.

It must be remembered, too, that we have the power to prosecute all the tenants who have access to a water-closet, if it is found to be fouled or blocked by improper use, under sections 21 and 22 of the Public Health Acts Amendment Act, 1890.

Waste-water-closets or slop-closets.

The advantages of a *slop-closet* or *waste-water-closet* over an ordinary water-closet are :—

- (1) That it never freezes.
- (2) That it costs nothing for water.

The table on the next page shows that the experience of the towns that have used slop-closets is fairly favourable. The table practically mentions all the objections to them, so that by making use of the experience of other towns we will be able to reject any slop-closets that do not as far as possible meet these objections. Dr. Parsons, of the Local Government Board, has reported favourably on these closets.

Trough Closets.

“*Trough closets*,” to quote Dr. Parsons, “are suitable for places where many closets stand in a row, and where closets are used indiscriminately by many people, as at mills and schools, and to replace ranges of privies in old courts. Of appliances for the removal of excreta by water they are, under due supervision, the most suitable for the lowest and roughest class of the population.”

I am, Gentlemen,

Your obedient Servant,

H. SCURFIELD, M.D.,

Medical Officer of Health.

Health Department,

Town Hall, Sunderland,

January, 1897.

NAME OF TOWN.	Do the slop or waste water-closets in your town work satisfactorily?	Are they ever blocked by frost?	Are they ever blocked by improper things being thrown into them?	Do the pans and shafts become foul?	Do you take special measures to get a large supply of rain water, as well as slop water, to the gully which supplies the tipper?
BOLTON	Yes, when constructed properly.	Not by the most severe frost.	Not often, only sometimes in low neighbourhoods.	Yes, the circular shafts.	We always take in yard and roof water, when we can get it, to the tipper.
BIRMINGHAM	Yes, when properly constructed.	No.	Yes, like all other water-closets, but the removal of the obstruction is easy, speedy, and cheap, when a manhole is provided at the proper point. Such manhole is a "siné qua non."	To a certain extent, but are no worse in this respect than an ordinary water-closet when neglected. In low class properties they should be officially inspected, and, if necessary, cleansed weekly.	The drains are made to converge to the tippers, so that both house slops and rain water necessarily pass through them.
BURNLEY	Fairly.	No.	Yes, very frequently.	No.	No.
DARWEN.....	Yes.	No.	Occasionally.	No.	No.
HANLEY	Moderately satisfactory.	No.	Yes.	Yes.	The water from rear roof only, in addition to slop water.
WOLVERHAMPTON ..	Yes, quite so.	No, not even during the exceptional frost, winter before last.	Very rarely; in one instance, where a closet was at a Common Lodging House, it was blocked twice in a few weeks, on each occasion by old clothing.	Yes, rather, but not at all badly; they should not be too close to dwelling house door and window; they are essentially out-door closets.	No special measures taken. Here the surface water from the yards runs into the gully which supplies the waste water-closet, but the roof water is usually saved.



TO THE CHAIRMAN AND MEMBERS OF THE
HEALTH COMMITTEE.

Conversion of Privies and Ashpits and Pan-Closets
into Water-Closets and Dry Ash Receptacles.

GENTLEMEN,

In accordance with the resolution passed at a Special Meeting of your Committee held on the 9th June last, I beg to report that the Medical Officer of Health and myself have given very careful consideration to the question of altering the existing privies and ashpits and pan-closets in the Borough, so as to render the same sanitary.

There are at present in existence 10,351 privies and ashpits (excluding 280 which are not proposed to be dealt with under this scheme) which are altogether *insanitary*, and which should be remodelled and reconstructed.

There are also 623 pan-closets, which should be dealt with in a somewhat similar manner.

I have, in the first place, carefully estimated the cost of removing the privies and ashpits, and constructing in their place suitable water-closets, with receptacles adjoining for the deposit of dry ashes. Secondly, I have estimated the cost of removing the privies and ashpits and erecting ash-closets, such as the Corporation now require. Thirdly, I have estimated the cost of converting the existing ash-closets into water-closets with a dry ash receptacle adjoining; and, lastly, I have estimated the cost of converting the existing pan-closets into water-closets, with similar accommodation for dry ashes.

Although, by the conversion of the present privy-middens into the type of ash-closet now approved by the Corporation, a considerable sanitary improvement would undoubtedly be obtained, yet the cost of such conversion would so nearly approach the construction of a proper water-closet and dry ash receptacle that practically nothing would be gained thereby, whilst the cost of cleansing would remain practically as now, and the estimated saving of £4,000 per annum (*vide* page 23) would be cancelled.

By the adoption of the water-closet and dry ash system, an infinitely greater sanitary improvement would be effected, and at no greater capital cost, whilst the cost of cleansing would be so

much reduced. All things considered, therefore, I think it would be most inadvisable to do otherwise than to adopt this system.

This position being granted, I estimate that the cost of pulling down and clearing away the existing privies and ashpits, and constructing in their stead proper water-closets and dry ash receptacles would be.....£128,959

And the cost of similarly converting the pan-closets and erecting dry ash receptacles would be..... £4,206

£133,165

In addition to this sum, if it be also proposed to deal in a similar manner with the 3,633 ash-closets, it will be necessary to add £25,431

£158,596

In the foregoing estimates for the conversion of privy-middens I have calculated for total reconstruction, as I consider it to be of vital importance that the filthy saturated sub-soil should be entirely removed, and the ground filled in with hardstuff and lime. Further than this, in the case of all double privy-middens, and in most of the single privy-middens also complete reconstruction is necessary in consequence of the existing relative positions of privy, ashpit, and adjoining back street.

The annual amount required to pay off this sum of £158,596 in 30 years, with interest at the rate of $2\frac{1}{2}$ per cent. per annum, is £7,574 19s. 7d.

It will, therefore, be for the Committee to consider—first, whether or not the owners of properties may be reasonably called upon to do away with a state of things which is, undoubtedly, injurious to health, and which is admittedly a large contributory agent to typhoid fever and other infectious disorders; and, secondly—if property-owners may not be so called upon, whether or not the town should undertake the work. It is to be borne in mind that the assets to be set against this apparently large expenditure are by no means few or insignificant. Primarily, there is the improvement of the public health, and the diminution of the death-rate; and, secondarily, there is the reduced cost of refuse removal and disposal.

I am, Gentlemen,

Your obedient Servant,

R. S. ROUNTHWAITE,

ASSOC. M. INST. C.E.,

Borough Engineer and Surveyor.

Borough Engineer's Office,

Town Hall, Sunderland,

January, 1897.

TO THE CHAIRMAN AND MEMBERS OF THE
HEALTH COMMITTEE.

JOINT ESTIMATE.

GENTLEMEN,

By the adoption of the water carriage system for all properties, there would be a saving to the cleansing department for the following reasons, viz. :—

1. The total amount of refuse to be removed by cartage would be lessened in various ways, viz. :—

- (a.) The refuse would be dry, the rain, slop water, and urine being excluded.
- (b.) The solid excreta alone (taken at 6 oz. per head per diem. for 100,000 people) would lessen the amount to be removed by cartage by upwards of 6,000 tons ; or, taking the quantity of refuse removed in Rochdale in the excreta pails as a guide, the exclusion of the liquid and solid excreta of 100,000 persons would lessen the bulk of the refuse to be removed by cartage annually by 10,000 tons.
- (c.) Garden refuse, manure, and a considerable proportion of the vegetable refuse that is at present put in the ashpits would not be put in the dry ash pans.

The total amount of the probable reduction in the refuse to be removed if the water carriage system were introduced may, perhaps, best be ascertained by comparison with some of the water-closet towns. Cardiff, Bristol, Liverpool, and Rochdale are here given for comparison.

SUNDERLAND.

Average amount of house and shop refuse removed annually:

= 72,000 loads for 130,000 people
= $\frac{7}{13}$ of a load per person.

CARDIFF.

Average amount of house and shop refuse removed annually :

= 50,000 loads for 130,000 people
= $\frac{5}{13}$ of a load per person.

BRISTOL.

Average of *house refuse only* removed annually :
 = 48,000 loads for a population of 220,000
 = about $\frac{3}{13}$ of a load per person.

LIVERPOOL.

House and shop refuse removed annually :
 = 93,500 loads for a population of 638,000
 = about $\frac{2}{13}$ of a load per person.

Total of all refuse removed, including manure and street sweepings :
 = 271,000 loads for a population of 638,000
 = about $\frac{6}{13}$ of a load per person.

ROCHDALE.

Tons from excreta pails = 7,000 for a population of 70,000.
 Tons from refuse pails = 13,000 „ „ 70,000.

Total of contents of excreta pails and refuse pails = less than $\frac{4}{13}$ of a ton per person.

Cardiff is the highest of these, and as coal will be cheap there, it may be fairly compared with Sunderland. If Cardiff be taken as a guide, the reduction in the amount of refuse to be removed by cartage will be about 22,000 loads.

2. Much time would be saved in consequence of the work being done by day instead of by night.

3. Loads would be more quickly obtained, as the carts would be filled by emptying the ash-pans directly into them, instead of by shovelfuls.

4. The sweeping up of the streets after ashpit cleansing, and the liming and disinfecting of the ashpits, would no longer be necessary.

5. The refuse to be removed being inoffensive, more of it could be sent to the tips instead of to the hopper, thus saving 7d. a load.

6. The expense of sending the iron tanks to empty ashpits containing water would be avoided.

7. The extra wages paid on account of the present disgusting nature of the work, and on account of its being night work, would be saved. This would apply to the ashpit men and the ashpit cartmen. The night cartmen get 1s. per week more than the day cartmen, while the night ashpit men get 5s. per week more than the day dust-bin men.

8. Accidents to horses would be less frequent, if they were all doing day work, than they are at present.

The 72,000 loads in Sunderland cost £10,000 to remove, or more than 2s. 9d. per load.

ESTIMATE OF ANNUAL SAVING TO THE CLEANSING DEPARTMENT.

	£	s.	d.
By 22,000 loads, at 2s. 9d. per load	3,025	0	0
By sweeping up, liming, and disinfecting	400	0	0
By the difference between the wages of 25* ashpit men at 28s. per week, and 25 dust-bin men at 23s. per week, <i>i.e.</i> , £6 5s. a week.....	325	0	0
By the difference between 25* night cart- men at 27s. a week and 25 day cartmen at 26s. per week, <i>i.e.</i> , 25s. per week	65	0	0
Total	£3,815	0	0

Reasons 2, 3, 4, 5, 6, and 8 would probably bring the saving up to more than £4,000.

We are, Gentlemen,

Your obedient Servants,

R. S. ROUNTHWAITE,

(ASSOC. M. INST. C.E.)

Borough Engineer and Surveyor.

H. SCURFIELD, M.D.,

Medical Officer of Health.

Town Hall, Sunderland,

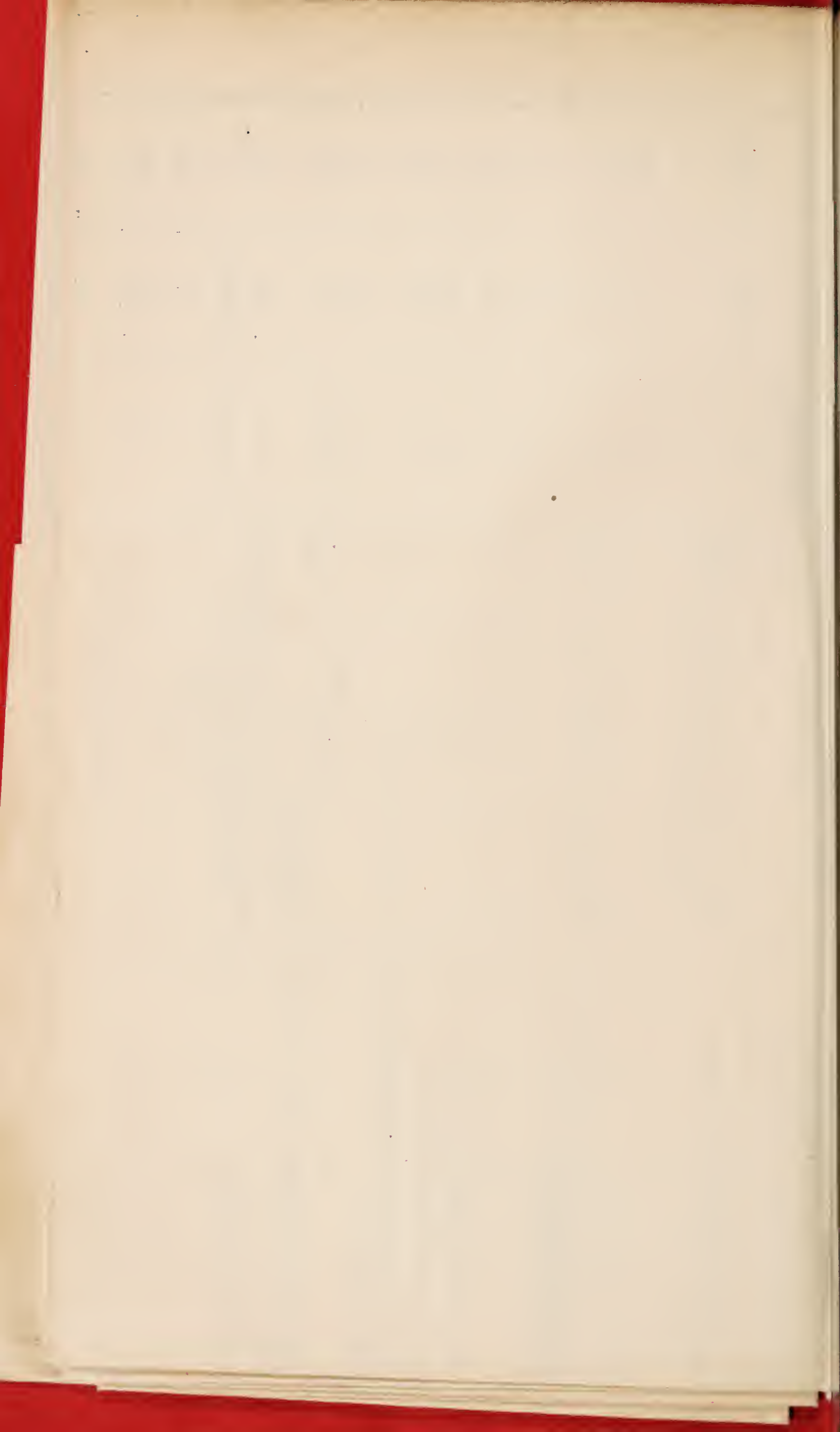
January, 1897.

* These numbers do not represent the men at present employed in removing 72,000 loads, but the men that would be employed in removing 50,000 loads.



Name of City or Town.	Population.	Persons on an Acre in 1894.	Existing Number of Privies.	Existing Number of Pail or Pan Closets.	Existing Number of Water-Closets.	Existing Number of Slop or Waste Water Closets.	Existing Number of Trough Closets, or Water Latrines.	Opinions and Practice with respect to Conservancy and Water-Carriage System.	Amount of Money spent by the Corporation in Converting old forms of Closets into Water-Closets.	Annual Rate of Mortality per 1,000, from 1820-1893 inclusive, from Fever, &c. Ty- phoid, Typhus, and Continued.	Diarrhoea.	All Causes.
Accrington.....	40,600	12.9	800	2,800	400	4,900	100	Have powers to convert to water-closets at the Corporation expense	£200 per annum is spent out of the rates (equal to 1d. in the £). £2 is allowed for each pail-closet, but nothing for the conversion of any other closet	19 (1892-5)	76 (1891-5)	157 (1894-5)
Aston Manor.....	72,898	77.5	10,000 (about)	Very few	5,000 (about)	None	None	Water-closets to all new houses	...	13	1.5	16.3
Ashton-under-Lyne.....	10,463	31.1	3,929	1,400	604	120	...	Section 20 Ashton Corporation Act, 1893, after 3 years from passing of Act all closet accommodation shall be water-closet, all existing closets, if altered, to be altered at the Corporation's expense	Section 39 of this Act gives power to borrow £35,000 for the purpose	21	83	22.9
Barnsley.....	35,427	18.7	3,891	...	500 to 600	282	12	...	...	42	1.44	22.0
Belfast.....	275,000	40.4	30,000	...	26,000	...	...	£200,000 is now being spent on works of sewerage and alterations	...	57	1.12	25.1
Birkenhead.....	105,630	30.3	1,900	...	18,000	...	...	Privies, other than water-closets, are dealt with as nuisances	...	325	7.76	19.7
Birmingham.....	492,301	38.7	11,500	38,000	36,500 of both kinds	...	Unknown	The Birmingham Act of 1883 gives the Corporation special power to prescribe work to be done in abating a nuisance	...	16	9.96	20.7
Blackpool.....	23,846	6.8	210	40	More than 6,000	...	...	...	...	19	1.05	15.5
Blackburn.....	120,964	18.9	3,986	10,887	7,900	1,100	...	Water carriage has been adopted for new properties. Privies are gradually being replaced by water-closets	Corporation pay part of the cost of conversion of pail closets	253	1.40	22.75
Bolton.....	118,303	50.2	14,700 (10,976 in 1896)	6,769 (6,747 in 1896)	1,700 (1,746 in 1896)	1,163 (2,242 in 1896)	100	Water carriage system adopted for new property	£12,000 voted, and borrowing powers obtained. Work of conversion not yet commenced	285	1.32	22.9
Bournemouth.....	42,000	19.7	...	...	Water-closets for 6,700 houses	...	30	...	...	97	2.3	13.8
Bradford.....	223,985	20.8	30,000	...	10,000	500	34	...	...	152	8.65	19.75
Brighton.....	118,715	46.9	...	...	None but ordinary water-closets in use	...	...	Entirely a water-closet town	...	103	6.36	18.15
Bristol.....	226,678	50.8	...	...	Universally used inside and outside houses.	...	...	Entirely a water-closet town, and has been for a long time	...	10	4.4	18.9
Burnley.....	90,000	24.6	4,684	904	5,769	7,221	1876	Is being gradually converted. Privies are dealt with as nuisances under P.H. Act, 1875	...	26	1.18	21.5
Burden.....	32,581	13.9	4,000	16	1,000	1,600	20	Water carriage system considered by far the best	Half of the total cost of conversion of privies into water-closets is paid	19	1.18	22.3
Barton-on-Trent.....	47,500	11.5	3,817	4676 without flks. two acts	1,713	Number unknown	...	...	...	14	7.6	19.3
Cardiff.....	148,890	24.6	8	...	About 2,520 houses have w.c.'s	100	5	Water carriage system adopted many years ago. Every house has one or more water-closets. The M.O.H. says the death-rate has been materially reduced thereby. It was 32.7 (1845-54)	...	98 (1893-5)	28	19.6
Carlisle.....	39,176	19.8	28	...	Universal outside and inside houses.	...	...	Is practically a water-closet town	...	18	5	17.9
Chatham.....	31,657	7.1	3,500	...	613	...	8	...	...	996	2.9	17.2
Cheltenham.....	50,000	9.9	50 (about) outside town	...	8,000	...	A few of these with rows of cottages	Is a water-closet town	...	22	4.6	23.2
Cork.....	76,000	33.5	200	150	10,000	...	35	Is practically a water-closet town	...	12	6.3	17.6
Coventry.....	51,720	18.0	...	...	9,000	70 (about)	...	Is entirely a water-closet town. Experience of slop-closets not wholly satisfactory; ordinary water-closets much preferred.	...	17	9.7	16.4
Crewe.....	35,961	13.1	...	...	...	...	...	...	...	99	4.4	15.2
Croydon.....	109,700	12.4	...	34	33,000	...	...	Is a water-closet town, and has been for 40 years	...	32	6.7	16.6
Darlington.....	38,060	9.9	6,087	191	2,777	...	Automatic for tenements	...	...	26	4.2	18.3
Darwen.....	36,000	6.0	30	6,946	600	140	About 50 of these closets hand-flushed	Tub and pail closets are still approved	...	175	6.65	17.6
Derby.....	98,796	28.6	7,275	4,777	7,620	...	318	The conversion to water-closets is being enforced as much as possible under the P.H. Act, 1875	The M.O.H. in his report for 1895 recommends the Corporation to bear part of the expense	15 (1892-5)	15 (1894-5)	16.9 (1894-5)
Devonport.....	55,000	32.3	No unknown but small	...	6,000 (about), but hand-flushed for all poor houses	...	...	Is almost entirely a water-closet town. Privies nearly all abolished	...	44	7	26.1
Dublin.....	245,901	65.2	Very few	...	Nearly all closets are w.c.'s	A few	52	...	...	20	9	21.85
Dudley.....	47,000	12.8	5,000	37	150	50	10	...	...	963	5.9	13.0
Eastbourne.....	34,969	7.5	12	9	In general use, 21 exceptions	...	...	Is a water-closet town	...	15	2.6	18.28
Edinburgh.....	270,588	43.8	...	...	W.c.'s almost universal	...	...	Is a water-closet town	...	21	3.2	20.0
Exeter.....	37,404	19.9	...	...	W.c.'s universal	...	2	Is a water-closet town	...	246	1.03	19.7
Gateshead.....	85,692	29.7	6,000 (about)	10,000 (about)	200 (about)	100	30	...	...	24	5.2	23.08
Glasgow.....	686,820	57.8	Number unknown, but continually diminishing. Pails scavenged daily.	Number unknown, but continually diminishing. Pails scavenged daily.	Upwards of 100,000	...	...	All alterations done at the owner's cost. No charge for water supply of closets	...	63 (1892-5)	1.49 (1894-5)	18.2
Grimsby.....	55,000	20.0	...	Box closets almost universal	Very few	17	These are used at schools and lodging-houses.	Water-closets are required for all new property. Conservancy methods have been condemned here	...	5	2.7	19.65
Halifax.....	92,000	10.9	Ordinary Ash-pits, 700. Dry Ashpits, 500	13,373 (Goux system) 13,797 in 1896	4,000	...	...	Water carriage system not adopted. The M.O.H. thinks the water carriage system would be preferable to the Goux pail system	...	27	8.8	19.9
Hanley.....	56,547	32.4	3,270	3,440	700	3,320	100	...	£500 per annum; 20s. is paid by the Corporation towards the cost of converting each obsolete close	96	1.9	15.23
Hastings.....	52,223	30.7	...	...	W.c.'s almost universal.	...	A few for public use, etc.	...	...	13	3.0	18.3
Huddersfield.....	98,611	8.3	2,000 (mostly in Rural areas)	15,000	3,143	50	...	The question of converting the pail-closets into water-closets has been under consideration for several years. Huddersfield Improvement Act, 1880, gives power to the Corporation to compel the conversion of privy or tub closet to such system as they approve	...	243	1.33	19.96
Hull.....	212,679	25.9	47,500, mostly small cemented receptacles	100 (about)	3,000 (about)	...	185	...	...	18	9	19.7
Ipswich.....	58,610	7.4	9,600	90	3,850. Rapidly extending in substitution for privies	50 (about)	...	...	...	94	1.56	16.9
Leamington.....	27,116	9.8	...	4 in Rural area	7,000 (about)	...	2 (in Board Schools)	...	...	216	1.086	21.0
Leeds.....	388,761	18.0	17,214 to 30,642 houses	1413 to 1096 houses, and many schools, mills, etc.	33,427 to 31,453 houses	...	11,636 to 21,263 houses	...	£500 per annum	188	1.50	18.3
Leicester.....	184,647	22.0	2,080	7,639	12,096 (about 20,000 in 1896)	20 (about)	A few	During 1895 the Town Council passed a resolution to convert the pail-closets into water-closets, and they have now obtained the necessary powers	£35,000 has been borrowed, and the Corporation intend to pay £5 towards the conversion of each pail-closet, where it is in such a position as not to be a nuisance. Privy-middens are dealt with as nuisances, and no part of the cost of their conversion is paid	366	1.09	25.85
Liverpool.....	507,230	97.3	...	...	W.c.'s only in use	...	...	Water carriage system is used exclusively. A part of the conversion was borne by the Corporation in Dr. Trench's time, £40,000 being spent	...	143	6.41	20.2
London.....	...	...	...	...	...	...	...	Water closets universal	...	263	1.13	25.28
Manchester.....	515,567	40.3	23,223 privies, 12,825 pits	78,726	24,000	619	72	Local Acts provide, that whenever alterations are made to property or new houses erected, w.c.'s shall be put in. Power for Corporation to do work and charge the cost as streetage expenses.	...	42 (1891-5)	8.9 (1891-5)	20.11 (1891-5)
Middlesbro'.....	80,300	29.5	3,400	8,195	1,273	...	65 (for schools, etc.)	...	...	156	6.73	21.53
Newcastle-on-Tyne.....	201,947	37.6	2,900	4,300	27,000	700	21	...	...	12 (1892-5)	6.2 (1894-5)	14.8 (1894-5)
Northampton.....	62,844	49.1	...	...	Number unknown, many hand-flushed, a very undesirable method	...	...	...	...	25	8.73	19.6
Norwich.....	105,990	14.0	12,000	3,500 (about)	4,000 to 5,000	A few	40	...	...	258	9.66	18.3
Nottingham.....	223,580	20.4	500 (about)	40,253	8,668	160 (about)	138	Water-closets are to be put in all new houses of more than £18 rental, but slop water-closets, or, if desirable, latrines may be put in connection with all houses of lower rental	No part of the cost is borne by the Corporation. When any closet becomes a nuisance, the owner is ordered to provide a water-closet	153	6.13	21.75
Oldham.....	138,755	29.3	76	23,381	1,109	40 (about)	...	...	Oldham are applying for power to borrow £150,000 for the purpose of converting all closets into either ordinary water-closets or slop water-closets	94	3	15.3
Oxford.....	53,000	10.1	...	...	W.c.'s universal	...	20	...	...	17	6.18	20.35
Plymouth.....	86,772	57.1	...	...	13,000	...	...	...	...	25	7.75	18.05
Portsmouth.....	159,251	39.6	300 (about)	None.	Nearly all the houses, exact number not known.	Hardly any	...	Water carriage system adopted for both new and old property	None	306	2.23	24.98
Preston.....	111,425	27.2	20,000	...	5,000 to 6,000	A few	50 to 60	Privies are being gradually converted into water-closets. The slop water-closets work satisfactorily	Alterations done at owner's expense	12	5.5	16.04
Reading.....	60,054	10.9	Very few outlying	Very few outlying	14,279, a few hand flushed	...	...	...	...	14	3.0	19.90
Rochdale.....	71,401	17.3	120 (about)	13,593	800	...	A few in mills, etc.	...	...	42 (1892-5)	1.20 (1894-5)	17.8 (1894-5)
Rotherham.....	46,000	7.5	3,500	...	1,100	18	2	...	...	48	1.26	22.42
St. Helen's.....	77,690	10.7	5,021	6,737	682	...	25	Looking forward to conversion to water carriage of existing dry system	...	393	1.30	23.95
Salford.....	205,828	39.8	13,983	8,990	4,595	...	...	Water-closet system is being adopted in all new buildings, and cases of reconstruction	...	24	6.6	18.13
Scarborough.....	33,779	14.9	8,900 (about)	Many privies have moveable boxes under seats	4,400	...	Number unknown	...	Extra charge for water supply to w.c.'s is no longer made, this change has done much to help on conversion of old dry closets	218	1.20	21.7
Sheffield.....	338,318	17.2	20,000	...	5,000 (about)	150 (about)	Number unknown	A local Act empowers the Corporation to order the conversion of privies to w.c.'s	The Corporation allow the owners one-third of the cost of conversion, provided the work is carried out to their satisfaction, and have obtained the permission of the Local Government Board to borrow £30,000 for this purpose	14 (1892-5)	3.8 (1894-5)	15.2 (1894-5)
Smetlicwick.....	36,170	21.0	8,411 (about)	...	Number unknown, but w.c.'s are put into all new houses	...	...	...	...	163	2.90	17.44
Southport.....	41,406	12.3	1,500 (about)	...	Number unknown	7,000 (about)	...	The water carriage system has been adopted	Occasionally an abatement of 25 per cent. has been allowed to owners off the cost of conversion of privies	24	9.3	20.24
South Shields.....	87,045	47.3	2,350 old-fashioned, 8,800 with small cemented receptacles	...	600 (about)	150	30	...	...	...	...	...
Stafford.....	21,136	19.5	178 privies with ashpits combined, 48 privies with-out ashpits	3,342	120	80	None	Conservancy system is expensive and objectionable. Local Act has just been passed giving compulsory powers for conversion of all privies and pail-closets to the water-carriage system	It is proposed to allow 45s. to 60s. per closet of an estimated total cost of 825. 6d.	...	...	15.6
Stockport.....	73,000	33.7	6,000 deep pits	A few pails	1,250	250	12	...	...	27	1.47	23.9
Stoke-on-Trent.....	26,000	15.1	4,364	...	250	200	...	The substitution of w.c.'s of various kinds for privies is being pushed on	...	62	1.196	22.28
Sunderland.....	136,000	47.5	10,700 open midden-privies, 3,600 with roofs and cement bottoms	800	3,000 (about)	A few have been fixed during 1896	A few	...	...	...	...	...
Swansea.....	92,344	18.8	500	1,500	16,000	None.	...	Water carriage system adopted for new properties, and being extended to old properties as rapidly as possible	The Corporation bear no part of the cost of conversion	206	4.23	19.85
Tynemouth.....	47,175	11.0	2,000 (about)	3,000 (about)	Number unknown	...	Number unknown	...	...	21	4.8	19.3
Wakefield.....	33,146	21.7	1,847	1,274	1,277	...	220	...	...	...	...	...
Walsall.....	75,000	10.2	8,711 (5,319 in 1896)	...	7,000 (about) (8,548 in 1896)	200 (about)	...	The general system for the removal of excreta by water carriage system has been adopted, privies are being altered at the rate of about 400 a year	Owners pay all cost	21	1.25	20.05
Walthamstow.....	54,400	13.6	...	...	12,000 (about)	...	These are used only at schools	The greater part of Walthamstow has been built since 1875, there is not, therefore, much obsolete work to alter	...	17	7	15.2
Warrington.....	49,124	28.6	30	10,506	400	...	2	The pail system is still largely extended to new property. The conversion to water carriage would necessitate a new system of sewerage	...	23	1.5	22.3
West Bromwich.....	60,000	10.3	7,900	...	250 (about)	200 (about)	10 (about)	The process is being altered. Much difficulty in securing adoption of w.c.'s in place of privies	None voted at present; under consideration. Conversion scheme has been urged by the Medical Officer of Health and Dr. G. S. Buchanan of the Local Government Board	25	1.12	24.32
West Ham.....	217,113	50.6	8 (about)	...	W.c.'s practically universal.	...	...	Always had water carriage	...	21	8.1 (for 4 years)	17.9
Widnes.....	30,512	10.0	5,102	...	230	250	20	...	...	6	9	21.2
Wigan.....	57,400	26.2	64	8,400	950	24	A few at schools	...	...	11	1.8	23.5
Willesden.....	70,000	18.1	...	...	W.c.'s to all houses	...	A few on business premises	Is a water-closet town	...	11	5.9	14.11
Wolverhampton.....	84,000	24.1	Not many, number unknown	14,000 (about)	2,000 (about)	900	12	The closet question is being seriously considered here	The Corporation are at present considering whether powers shall be obtained by means of a provisional order	215	1.125	22.7
Worcester.....	42,908	13.7	200 (about) nearly all in rural suburbs	...	W.c. constitute two-thirds of all closets.	A few	A few in the schools	W.c.'s are being put up, either inside or outside all new houses. About 50 privies a year are done away with	...	17	0.6	20.2
York.....	67,926	18.7	7,787	61	5,780	72	54	...	...	34 (1892-5)	1.26 (1894-5)	18.4 (1894-5)
33 Large Towns.....	...	...	...	...	...	...	...	...	...	195	8.46	20.8

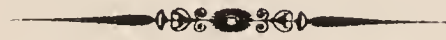
The information contained in this table is compiled partly from Dr. Boobbyer's report to the Nottingham Health Committee (1894), partly from Dr. Tattersall's report to the Oldham Health Committee (1894), and partly from information received from the Medical Officers of Health for the towns in question. The death-rates given are obtained from the Registrar-General's Returns and from the Medical Officers of Health for the different towns.







COUNTY BOROUGH OF SUNDERLAND.



Annual Report

ON THE

HEALTH & SANITARY CONDITION OF SUNDERLAND

FOR THE YEAR 1896.



HAROLD SCURFIELD,

M.D. AND C.M., EDIN., D.P.H., CAMB.,

MEDICAL OFFICER OF HEALTH,

MEDICAL SUPERINTENDENT OF THE

BOROUGH FEVER HOSPITAL.



Sunderland :

HERALD AND POST GENERAL PRINTING WORKS, WEST WEAR STREET.

1897.

COUNTY BOROUGH OF SUNDERLAND.

HEALTH COMMITTEE.

CHAIRMAN:

ALDERMAN JOHN HARRISON, J.P.

VICE-CHAIRMAN:

COUNCILLOR JOHN TURNBULL.

ALDERMAN BELL, J.P.

„ BURNS, J.P.

„ BRUCE.

„ COATES.

„ FAIRLESS, J.P.

„ GIBSON, J.P.

„ JOHNSTON.

„ RICHARDSON, J.P.

„ RICKABY, J.P.

„ WALKER.

COUNCILLOR ANNISON, J.P.

„ CALVERT.

„ CROWN.

„ CHRISP.

COUNCILLOR FOSTER.

„ JAGO.

„ KIRTLEY.

„ MITCHELL.

„ PUNSHON.

„ RICHARDSON, N.

„ ROCHE.

„ RUDLAND.

„ SANDERSON, W., J.P.

„ SHORT, J. Y., J.P.

„ SHORT, JOSEPH

„ SMITH, J. H.

„ THOMPSON, L.

„ TURNBULL, H.J., J.P.

Meetings every alternate Thursday, at 7:30 p.m.

Accounts, at 7:15 p.m.

Officials of the Health Department.

*Medical Officer of Health and Medical Superintendent of the
Borough Fever Hospital :*

HAROLD SCURFIELD, M.D. AND C.M. (Edin.), D.P.H. (Camb).

Inspector of Nuisances :

MR. JOHN PENNOCK.

Assistant Inspectors of Nuisances :

MR. CHAS. E. HORSMAN.

MR. GEORGE SINCLAIR.

MR. THOMAS H. DOWNES.

MR. ROGER LEE.

MR. JAMES S. WATSON.

M. J. G. FORSYTHE.

Superintendent of Cleansing Department :

MR. JOHN WILKINSON.

Horsekeeper :

MR. WILLIAM STOBART.

Clerk :

MR. JAMES FIELD.

Assistant Clerk :

MR. HENRY BROUGHTON.

Matron to the Borough Fever Hospital :

MISS A. F. FYFE.

Engineer to the Borough Fever Hospital :

MR. W. S. OATES.

I N D E X .

	Page
Acreage of the Borough	1
Bakehouses	62
Births	3
Cancer	27
Cases of Sickness in Houses Visited by the Sanitary Inspectors ...	54
Circulatory System, Diseases of	26
Clay Sub-Soil, Effects of a... ..	36-37
Cleansing Department	45 to 48
Collection of Paper	48
Comparison with previous years	5
Comparison of Hospital and Home Treatment	43
Common Lodging Houses	51, 62, 63
Complaints attended to by Sanitary Inspectors	59
Cow Sheds in the Borough, Number of, &c.	61
Damp Courses and Concreted Sites	36
Dairies, Cow-sheds, and Milkshops	51
Dairies and Milkshops	60
Day Collection of House Refuse	48
Deaths	4
Deaths in Quarters... ..	4
Death-rates per 1,000,000 from various Diseases and Infantile Mortality in Sunderland and England, 1886-96	9
Death-rates per 1,000,000 from various Diseases and Infantile Mortality in the Sub-Districts of Sunderland, 1892-96 ...	10
Deaths in Four Quarters 1896, compared with those in the Four Quarters of 1895, from divers causes	11
Death-rates in Sunderland and its Sub-Districts, General Remarks on the	35 to 41

Density of Population per Acre	1
Diarrhoea	25, 26
Diarrhoea Death-rate in 33 towns	7
Digestive System, Diseases of	26
Diphtheria	16
Disinfecting Work	57
Drain Testing	50, 55
Education Department, Building Rules of the	39
Factories and Workshops	52, 66, 67
Factories in the Borough, Approximate Number of	67
Fever Death-rate in the 33 great towns	7
Food Material Condemned	65
Ground Air, Effects of	39
Ground Air in Sunderland, Special Reasons for Precautions against	40
Health of the Great Towns compared with Sunderland, 1872-96 ...	6
Hospital, Cases treated in	42, 43, 44
Housing of the Working Classes Act	49
Houses without Conveniences	49
Infantile Mortality	34
Infantile Mortality in Sunderland and England, 1886-96	9
Infantile Mortality in the Sub-Districts of Sunderland, 1892-96	10, 34
Infantile Mortality in 33 great towns	7
Inspections made by the Sanitary Inspectors during 1896	54
Magisterial Proceedings	58
Marriages	2
Measles	15
Notices Served on Occupiers	50, 56
Notices Served on Occupiers of Cow-sheds	61
Offensive Trades	66
Overcrowding in Tenements	50

	Page
Population	1
Position of Sunderland among Great Towns	8
Privy-Midden Towns, List of	18
Reasons for Blaming the Privy-Middens for the excessive prevalence of Typhoid Fever in Sunderland	24
Report of the Chief Sanitary Inspector	53 to 68
Respiratory System, Diseases of	32
Rheumatic Diseases	26
Scarlet Fever	16
Seizures of Unsound Meat... ..	64
Slaughter Houses	...52, 64
Smallpox	15
Smoke Nuisances	52
Summary of Notices for Abatement of Nuisances	55
Typhoid Fever	17 to 25
Typhoid Fever, Increased Case-fatality of	25
Typhoid Fever and Milk Supply	24
Tuberculosis... ..	27 to 32
Unhealthy Houses	49
Union Hospital	44
Vaccination, Importance of Efficient	15
Water-Closets	50
Water-Closets for New Houses	40
Water-Closet Towns, List of	19
Whooping Cough	16
Workshops in the Borough, Approximate Number of	68
Zymotic Diseases	12 to 26

APPENDIX.

TABLE.

Population, Inhabited Houses, Marriages, Births, and Deaths	I.
Annual Birth and Death-rates and Death-rates of Children	II.
Deaths registered from all causes during the year (all ages)	III.
Summary of Diseases	III.
Deaths registered from all causes in each District.....	III A .
Deaths registered from all causes in each Quarter	III B.
Deaths registered from all causes for 15 years, 1882-96	III C.
Occupations and Deaths	IV.
Streets in which Zymotic Diseases occurred.....	V.
Streets in which Enteric and Continued Fever occurred during the last four years... ..	VI.
Vaccination Returns, 1886-95 and 1896.....	VII.
Deaths in Sunderland for each week, 1881-96	VIII.
Death-rates in Sunderland for each week, 1881-96.....	VIII A.
Meteorological Observations, January to December, 1896	IX.
Local Government Board Tables (Deaths and Cases).....	A & B.

HEALTH DEPARTMENT,

TOWN HALL,

SUNDERLAND.

TO THE CHAIRMAN AND MEMBERS OF
THE HEALTH COMMITTEE.

GENTLEMEN,

I beg to submit for your consideration my
Report on the Health of the Borough and the work
of the Health Department during the year 1896.

I am, Gentlemen,

Your obedient Servant,

HAROLD SCURFIELD,

Medical Officer of Health.

June, 1897.

County Borough of Sunderland.

HEALTH DEPARTMENT.

ANNUAL REPORT
FOR THE YEAR 1896.

POPULATION.

THE population of the Borough of Sunderland, Population.
estimated in the usual way, at the middle of
1896 amounted to 140,386 persons. The distribution
of this population among the four Registration Sub-
Districts is shown in the following Table:—

	Population.	Area in Acres.	Density of Population per Acre.
Sunderland	14,123	211	66·9
Bishopwearmouth North..	44,706	1,092	40·9
„ South..	50,687	1,362	37·0
Monkwearmouth.....	30,870	727	42·5
Borough	140,386	3,397	41·3

In estimating the population of the Borough, it is assumed that the rate of increase which obtained during the last inter-censal period (1881-1891) still holds good ; and, similarly, it is assumed that the population of the Sunderland Sub-District is decreasing, and that the populations of the other Sub-Districts are increasing at the same rate as they did between the census of 1881 and the census of 1891.

In consequence of the recent extension of the Borough, the data used in making the calculations were the census populations in 1881 and 1891 of the Borough and its Sub-Districts as now constituted.

REPORT,
1896.

Marriages.

MARRIAGES.

Last year 1,497 Marriages took place, 688 in churches and 809 before the Registrar. In 1895 there were 1,361 Marriages contracted. The following gives the particulars in quarters for 1896 :—

TABLE A.

	In Churches.	By Registrar.	Totals. 1896.	1895.
1st Quarter ...	130	171	301	278
2nd „ ...	182	209	391	351
3rd „ ...	200	209	409	359
4th „ ...	176	220	396	373
	688	809	1,497	1,361

The following Table shows the Marriages and rates per 1,000 of the population since 1877 :—

TABLE B.

Years.	Marriages.	Marriages per 1000 of Population.	Years.	Marriages.	Marriages per 1000 of Population.
1877	1,108	20·2	1887	1,186	19·1
1878	1,125	20·2	1888	1,343	21·1
1879	966	17·0	1889	1,447	22·6
1880	1,133	19·6	1890	1,442	22·3
1881	1,370	23·5	1891	1,318	20·0
1882	1,547	26·2	1892	1,221	18·3
1883	1,522	25·5	1893	1,203	17·8
1884	1,230	20·2	1894	1,266	18·6
1885	1,168	19·2	1895	1,361	19·8
1886	1,082	17·4	1896	1,497	21·3

Marriages increasing.

A study of these figures will show that the Marriage rate during the past year has been higher than in any year since 1890. The rate usually varies with the state of trade and prosperity.

BIRTHS.

The Births and Birth rates in each of the registration districts were as follows :—

REPORT,
1896.
—
Births.

TABLE C.

	Males.	Females.	Total.	Birth-rate.
Sunderland.....	319	232	551	38·21
Bishopwearmouth, North.....	886	809	1,695	34·93
Bishopwearmouth, South.....	710	751	1,461	27·89
Monkwearmouth .	581	585	1,166	37·14
Borough.....	2,497	2,377	4,873	34·06

The Birth rate in the 33 large towns of England and Wales was 30·7 per 1,000 of the population.

The Birth rates in the 1st, 2nd, 3rd, and 4th quarters were 34·47, 30·80, 33·42, and 34·63 respectively.

TABLE D.

Showing the number of Births of Males and Females, together with the Birth rates, for the 20 years, 1877 to 1896.

Year.	Births.			Birth Rate.		Year.	Births.			Birth Rate.
	M.	F.	Total.				M.	F.	Total.	
1877	2252	2247	4499	40·8		1887	2337	2134	4471	34·5
1878	2383	2258	4641	41·3		1888	2297	2262	4559	34·5
1879	2244	2242	4486	40·0		1889	2463	2355	4818	36·0
1880	2223	2194	4372	37·4		1890	2474	2458	4932	35·5
1881	2325	2262	4587	39·5		1891	2457	2488	4945	37·6
1882	2448	2441	4889	41·2		1892	2466	2443	4909	36·9
1883	2543	2511	5054	41·7		1893	2377	2393	4770	35·5
1884	2690	2527	5217	42·3		1894	2419	2341	4760	35·0
1885	2456	2269	4725	37·7		1895	2468	2351	4819	32·1
1886	2396	2225	4621	36·2		1896	2496	2377	4873	34·0

REPORT,
1896.

DEATHS.

Death-rate. The deaths registered during the year 1896 numbered 2784, the death-rate being 19·45 per 1,000 of the estimated population.

This is the lowest death-rate recorded since 1888, but as low death-rates were the rule throughout the country, Sunderland occupies a worse position among the large towns of England and Wales than it did last year, being 25th among the 33 great towns.

Deaths in Quarters. The deaths and death-rates in the Quarters were as follows :—

1st Quarter—Deaths	638	...	Rate	18·2	per 1,000
2nd „ „	762	...	„	21·70	„
3rd „ „	704	...	„	20·05	„
4th „ „	680	...	„	17·89	„

Tables E. and F. show the position of Sunderland among the large towns.

Tables G. and H.* give an analysis of the death-rate in the Borough and its sub-districts for 1896 and the preceding years, and also a comparison with the rates prevalent in England and Wales for the corresponding periods. The most important component parts of the death-rates are shown in these Tables, and it will readily be appreciated in what particulars the death-rate for 1896 differs from that of preceding years, and in what particulars the Sunderland death-rates differ from the English death-rates.

* For the purpose of avoiding fractions, rates per million are given instead of rates per thousand, in imitation of the custom of the Registrar-General.

In comparison with previous years, we note that the rate for Measles is high, that for Scarlet Fever about the average, and that for Whooping Cough above the average. There is a noteworthy decline in the rates for Enteric Fever and Diarrhœa. The rates for Rheumatism and Cancer are higher than the average, and that for Diseases of the Circulatory System considerably lower.

REPORT,
1896.
—
Comparison
with previous
years.

There is a considerable decrease in deaths from Tubercular Diseases other than Phthisis, a class which includes Tabes Mesenterica, Tubercular Meningitis, and Hydrocephalus.

The rates for Phthisis and Diseases of the Respiratory System are markedly below the average of preceding years, and this is probably accounted for by the fact that we have had two mild winters in succession, both the 1st and 4th quarters of 1896 being characterized by an absence of severe weather.

Climatic reasons also probably account for much of the decline in the Diarrhœa death-rate in the year. Thus the following Table shows that a cool August and a low Diarrhœa death-rate, and a hot August and a high Diarrhœa death-rate generally go together.

MEAN TEMPERATURE IN AUGUST AND ANNUAL DIARRHŒA
DEATH-RATES FOR THE PAST ELEVEN YEARS.

Year.	Mean Temperature In August.	Annual Diarrhœa Death- rate per 1000,000.	Position among 11 years for	
			Temperature.	Diarrhœa.
1886	58·8	1566	3rd	3rd
1887	53·4	886	11th	7th
1888	55·9	468	8-9th	11th
1889	57·8	1318	4th	4th
1890	56·0	998	7th	5th
1891	55·9	966	8-9th	6th
1892	55·0	602	10th	10th
1893	61·3	1917	1st	1st
1894	56·5	829	6th	8th
1895	59·6	1817	2nd	2nd
1896	56·6	825	5th	9th

REPORT,
1896.Health of
the Great
Towns
compared
with
Sunderland,
1872-1896.Taken from
the Annual
Summary
of the
Registrar
General.

TABLE E.

TOWNS.	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896
London	21.4	22.5	22.5	23.7	22.3	21.5	23.0	22.7	21.6	21.2	21.4	20.4	20.3	19.8	19.9	19.6	18.5	17.4	20.3	21.4	20.6	21.3	17.8	19.8	18.6
West Ham .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18.6	16.2	16.2	17.9	16.1
Croydon.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	15.8	16.3	13.2	14.5	14.2
Brighton.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19.2	18.4	16.4	18.9	16.1
Portsmouth	22.9	18.4	20.4	19.6	22.1	18.0	19.9	17.6	19.8	19.7	21.5	18.6	19.4	19.7	23.8	19.5	18.8	18.1	19.6	19.0	18.5	18.2	15.2	17.8	16.6
Norwich	26.3	21.5	23.5	24.5	21.9	20.7	24.3	21.7	24.3	19.5	20.6	19.6	21.2	20.3	23.3	20.4	20.2	18.4	21.1	19.3	20.0	19.3	18.7	19.3	17.4
Plymouth .....	.....	.....	.....	20.7	22.1	22.0	25.8	22.9	25.1	19.9	21.2	20.9	21.0	22.3	23.5	22.7	22.3	25.2	22.4	22.5	18.8	21.2	18.3	20.1	19.6
Bristol	22.0	23.1	22.7	26.9	22.6	22.5	22.2	21.9	21.0	19.6	19.2	17.9	18.4	19.7	19.3	20.4	16.9	17.6	19.2	20.9	19.5	18.9	17.3	18.1	16.9
Wolverhampton	25.9	25.1	23.9	24.8	23.8	24.4	23.5	23.0	21.3	21.2	22.4	21.3	23.4	20.2	22.2	21.7	20.7	20.6	21.8	24.2	21.5	23.3	20.7	24.4	20.0
Birmingham.....	23.0	24.9	26.8	26.6	22.7	24.1	25.5	22.1	20.7	20.0	20.9	21.3	21.4	19.3	19.9	19.7	17.8	18.7	20.7	22.2	20.4	22.0	18.6	20.3	20.8
Leicester	26.8	24.4	24.1	26.7	23.1	22.6	22.1	23.2	25.0	21.8	23.6	21.3	22.9	19.9	20.4	18.7	17.3	17.0	16.5	19.9	18.7	18.5	17.2	19.0	17.5
Nottingham.....	25.3	23.2	24.8	26.4	22.0	21.1	20.1	21.6	23.8	22.4	23.6	21.3	22.9	19.9	20.4	18.2	16.3	16.4	18.5	19.1	18.3	18.2	15.0	16.7	15.7
Derby .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18.7	18.1	18.4	18.1	18.2	17.1	16.3	16.4	18.5	19.7	19.6	20.5	18.1	19.5	19.2
Birkenhead .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20.1	19.9	19.6	19.5	19.1	21.0	17.8	17.8	19.7	20.9	19.6	20.5	18.1	19.5	19.2
Liverpool	27.1	25.9	32.0	27.5	27.6	26.3	29.2	26.9	27.1	26.7	26.5	26.7	25.2	23.8	23.8	23.7	20.3	21.6	23.6	27.0	24.7	27.3	23.8	28.8	22.7
Bolton .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	23.0	21.7	24.1	20.8	23.1	21.3	21.6	22.0	25.8	21.9	22.8	24.1	18.8	24.0	20.7
Manchester	28.6	30.1	30.4	30.0	29.2	28.5	29.2	28.3	26.9	25.5	26.7	27.6	26.4	26.5	26.3	28.7	26.1	26.7	30.6	26.5	23.8	24.9	20.4	25.2	22.6
Salford	25.8	29.3	29.6	28.7	28.3	26.4	27.1	26.7	28.0	22.6	23.2	22.4	22.3	21.1	22.1	22.2	21.1	20.5	22.4	26.0	24.6	24.1	21.0	25.6	22.6
Oldham	31.1	25.8	29.7	27.0	26.0	25.1	27.0	22.8	24.7	22.8	24.6	22.0	24.5	22.0	22.8	23.8	20.3	20.4	21.2	25.7	22.0	21.0	18.6	22.0	20.3
Burnley .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20.4	21.9	18.7	23.4	17.5
Blackburn .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25.1	24.5	24.1	21.8	25.5	25.5	23.9	25.5	23.5	25.8	21.7	23.3	17.9	24.3	17.9
Preston .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27.6	25.5	27.3	27.1	28.9	27.9	23.9	30.0	27.4	27.3	24.1	26.4	20.8	23.9	20.8
Huddersfield .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22.3	21.3	19.6	20.1	19.6	23.0	18.5	18.8	19.0	23.0	18.1	17.2	15.8	16.9	16.5
Halifax .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20.4	20.0	23.4	19.7	22.8	21.0	19.4	21.6	22.5	22.8	19.5	17.4	16.5	19.3	17.3
Bradford	26.3	24.7	28.0	27.2	23.9	23.3	24.1	22.0	22.9	19.7	21.2	18.3	20.1	17.7	19.2	19.9	17.1	19.2	20.4	22.2	18.0	21.0	17.0	19.9	16.5
Leeds	27.9	27.6	27.7	26.5	25.1	23.0	24.7	23.5	22.0	21.6	23.2	23.3	24.2	19.9	21.9	21.1	20.6	22.1	22.6	22.9	19.8	22.3	17.9	20.5	18.8
Sheffield	26.0	25.8	26.9	24.9	24.3	23.1	26.6	22.9	22.9	21.1	21.7	22.9	22.4	20.7	19.8	21.6	20.5	20.9	24.9	23.9	20.8	22.3	17.8	20.5	19.3
Hull	26.1	23.9	25.5	27.5	22.9	21.5	24.1	22.0	23.4	23.8	23.2	22.8	21.1	17.2	18.8	19.2	16.4	20.3	19.2	21.0	19.6	21.8	17.4	20.8	18.9
SUNDERLAND	26.5	22.8	23.4	22.5	21.0	22.9	25.9	22.3	25.0	20.9	26.5	24.5	23.1	23.8	19.5	19.7	18.0	22.8	22.5	25.0	20.9	22.4	20.6	21.7	19.8
Gateshead .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18.9	19.3	17.7	19.0	19.1
Newcastle	26.3	30.1	29.2	26.1	22.8	23.0	24.5	24.4	22.8	21.8	23.1	25.5	23.1	26.1	22.2	25.3	20.6	25.2	25.9	23.8	19.7	21.0	18.3	20.5	18.5
Cardiff .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20.0	20.2	24.4	25.7	22.6	21.9	20.5	19.5	20.8	22.1	18.8	19.7	16.2	18.2	16.8
Swansea.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20.4	19.6	17.0	18.3	16.8
Large Towns collectively	24.3	24.4	25.4	26.4	23.7	22.7	24.2	23.2	22.7	21.7	22.3	21.6	21.6	20.6	20.9	20.8	19.2	19.3	21.3	22.5	20.7	21.6	18.1	20.7	18.9

TABLE F.

Showing Fever Death-rate, Diarrhœa Death-rate, and
 Infantile Mortality in Sunderland and in the 33
 great Towns in 1896.

REPORT,
 1896.

NAME OF TOWN.	Fever.	Diarrhœa.	Infantile Mortality, <i>i.e.</i> , Number of Deaths under 1 year to 1000 Births
33 TOWNS	0·19	0·79	167
London	0·14	0·72	161
West Ham	0·23	0·81	165
Croydon	0·15	0·43	150
Brighton	0·11	0·60	135
Portsmouth	0·15	0·73	154
Plymouth..	0·07	0·83	178
Bristol	0·08	0·52	142
Cardiff	0·08	0·77	165
Swansea	0·15	0·25	161
Wolverhampton	0·41	1·41	184
Birmingham.....	0·21	1·20	197
Norwich	0·19	0·74	164
Leicester	0·20	1·35	187
Nottingham	0·34	0·69	168
Derby	0·20	0·65	151
Birkenhead	0·23	0·68	177
Liverpool	0·32	1·16	173
Bolton	0·39	1·09	168
Manchester	0·23	0·94	176
Salford	0·33	1·23	199
Oldham.....	0·16	0·62	184
Burnley	0·12	0·70	170
Blackburn	0·26	0·74	171
Preston.....	0·22	1·11	203
Huddersfield	0·13	0·26	166
Halifax.....	0·21	0·16	149
Bradford	0·12	0·38	143
Leeds	0·21	0·69	169
Sheffield	0·29	1·02	173
Hull	0·28	0·90	173
Sunderland	0·37	0·85	158
Gateshead	0·22	0·72	172
Newcastle.....	0·15	0·51	165

REPORT,
1896.—
Position of
Sunderland
among
the great
towns.

The figures given below have been obtained from Table E. to show the relative position of Sunderland compared with the large towns of England and Wales.

1870— 1st among 17 towns.	1884—17th among 28 towns.
1871—17th do. do.	1885—23rd do. do.
1872—13th do. do.	1886— 7th do. do.
1873— 4th do. do.	1887— 8th do. do.
1874— 4th do. do.	1888— 9th do. do.
1875— 4th do. 20 do.	1889—22nd do. do.
1876— 1st do. do.	1890—19th do. do.
1877—10th do. do.	1891—22nd do. do.
1878—15th do. do.	†1892—26th do. 33 do.
1879— 8th do. do.	1893—25th do. do.
1880—15th do. do.	1894—28th do. do.
1881— 8th do. do.	1895—23rd do. do.
*1882—25th do. 28 do.	1896—25th do. 33 towns.
1883—23rd do. do.	

* Eight towns added this year. † Five towns added.

Table F. shows that Sunderland stands 31st among the 33 towns for Fever, 23rd for Diarrhœa, and 8th for Infantile Mortality. We are thus in an exceedingly bad position for Fever and Diarrhœa, and a fairly good one for Infantile Mortality.

Tables E. and F. are taken from the Registrar-General's returns. The difference between his figures and mine is due to the fact that I have not included the 32 deaths of persons belonging to the district which occurred in Ryhope Asylum, and the 16 deaths in the district of persons not belonging thereto.

The deaths of Asylum inmates belonging to Sunderland have not been included in previous Reports, but in future they will be allotted to the Sub-Districts, similarly to deaths in the Workhouse, Infirmary, &c.

Eases, and Infantile Mortality, in Sunderland and in England.

PER 1,000,000.

Rheumatic Fever, Rheumatism of the Heart, and Rheumatism.	England.	124	1291	1647	436	590	1913	1739	638	734	4140	3775	2533
	Sunderland.	130	1460	1666	575	615	1620	1615	622	668	3767	3769	1875
Diseases of the Circulatory System.	England.	—	1363	1681	—	685	—	1447	1686	1549	1008	673	4485
	Sunderland.	64	1665	1695	608	621	1507	1568	663	653	4055	3631	1956
Cancer.	England.	48	111	1669	686	656	1833	1573	1279	685	4922	3423	2379
	Sunderland.	76	117	1799	507	676	1807	1682	1187	694	5957	4229	3024
Phthisis.	England.	76	125	1735	753	692	1659	1599	1271	701	5586	4565	3036
	Sunderland.	105	121	1444	587	690	1594	1468	1136	668	4144	3960	2000
Other Tubercular Diseases.	England.	67	134	1687	550	711	1508	1468	1285	677	4309	3607	1931
	Sunderland.	66	120	1607	597	671	1686	1549	1008	673	4485	3756	224
Diseases of the Respiratory System.	England.	29	108	1612	595	755	1692	1398	1031	665	3811	3527	2003
	Sunderland.	119	—	1363	—	685	—	1447	671	—	3628	—	165

Infantile Mortality, in the Sub-Districts of Sunderland, from 1892 to 1896.

Pneumatis.	106	124	—	2571	2166	1349	1753	1331	1747	278	473	578	660	639	537	730	2730	3022	1955	1804	1144	1226	1443	1049	556	594	874	984	543	1049	6672	3850	2832	3243	3560	3926	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	97	155	60	—	2660	1910	1428	1427	1705	843	1459	550	659	572	2293	2375	1937	1248	1302	1319	1029	873	1103	7049	4183	3246	3560	3926	1	19	2	13	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80	84	88	92	96	100	104	108	112	116	120	124	128	132	136	140	144	148	152	156	160	164	168	172	176	180	184	188	192	196	200	204	208	212	216	220	224	228	232	236	240	244	248	252	256	260	264	268	272	276	280	284	288	292	296	300	304	308	312	316	320	324	328	332	336	340	344	348	352	356	360	364	368	372	376	380	384	388	392	396	400	404	408	412	416	420	424	428	432	436	440	444	448	452	456	460	464	468	472	476	480	484	488	492	496	500	504	508	512	516	520	524	528	532	536	540	544	548	552	556	560	564	568	572	576	580	584	588	592	596	600	604	608	612	616	620	624	628	632	636	640	644	648	652	656	660	664	668	672	676	680	684	688	692	696	700	704	708	712	716	720	724	728	732	736	740	744	748	752	756	760	764	768	772	776	780	784	788	792	796	800	804	808	812	816	820	824	828	832	836	840	844	848	852	856	860	864	868	872	876	880	884	888	892	896	900	904	908	912	916	920	924	928	932	936	940	944	948	952	956	960	964	968	972	976	980	984	988	992	996	1000	1004	1008	1012	1016	1020	1024	1028	1032	1036	1040	1044	1048	1052	1056	1060	1064	1068	1072	1076	1080	1084	1088	1092	1096	1100	1104	1108	1112	1116	1120	1124	1128	1132	1136	1140	1144	1148	1152	1156	1160	1164	1168	1172	1176	1180	1184	1188	1192	1196	1200	1204	1208	1212	1216	1220	1224	1228	1232	1236	1240	1244	1248	1252	1256	1260	1264	1268	1272	1276	1280	1284	1288	1292	1296	1300	1304	1308	1312	1316	1320	1324	1328	1332	1336	1340	1344	1348	1352	1356	1360	1364	1368	1372	1376	1380	1384	1388	1392	1396	1400	1404	1408	1412	1416	1420	1424	1428	1432	1436	1440	1444	1448	1452	1456	1460	1464	1468	1472	1476	1480	1484	1488	1492	1496	1500	1504	1508	1512	1516	1520	1524	1528	1532	1536	1540	1544	1548	1552	1556	1560	1564	1568	1572	1576	1580	1584	1588	1592	1596	1600	1604	1608	1612	1616	1620	1624	1628	1632	1636	1640	1644	1648	1652	1656	1660	1664	1668	1672	1676	1680	1684	1688	1692	1696	1700	1704	1708	1712	1716	1720	1724	1728	1732	1736	1740	1744	1748	1752	1756	1760	1764	1768	1772	1776	1780	1784	1788	1792	1796	1800	1804	1808	1812	1816	1820	1824	1828	1832	1836	1840	1844	1848	1852	1856	1860	1864	1868	1872	1876	1880	1884	1888	1892	1896	1900	1904	1908	1912	1916	1920	1924	1928	1932	1936	1940	1944	1948	1952	1956	1960	1964	1968	1972	1976	1980	1984	1988	1992	1996	2000	2004	2008	2012	2016	2020	2024	2028	2032	2036	2040	2044	2048	2052	2056	2060	2064	2068	2072	2076	2080	2084	2088	2092	2096	2100	2104	2108	2112	2116	2120	2124	2128	2132	2136	2140	2144	2148	2152	2156	2160	2164	2168	2172	2176	2180	2184	2188	2192	2196	2200	2204	2208	2212	2216	2220	2224	2228	2232	2236	2240	2244	2248	2252	2256	2260	2264	2268	2272	2276	2280	2284	2288	2292	2296	2300	2304	2308	2312	2316	2320	2324	2328	2332	2336	2340	2344	2348	2352	2356	2360	2364	2368	2372	2376	2380	2384	2388	2392	2396	2400	2404	2408	2412	2416	2420	2424	2428	2432	2436	2440	2444	2448	2452	2456	2460	2464	2468	2472	2476	2480	2484	2488	2492	2496	2500	2504	2508	2512	2516	2520	2524	2528	2532	2536	2540	2544	2548	2552	2556	2560	2564	2568	2572	2576	2580	2584	2588	2592	2596	2600	2604	2608	2612	2616	2620	2624	2628	2632	2636	2640	2644	2648	2652	2656	2660	2664	2668	2672	2676	2680	2684	2688	2692	2696	2700	2704	2708	2712	2716	2720	2724	2728	2732	2736	2740	2744	2748	2752	2756	2760	2764	2768	2772	2776	2780	2784	2788	2792	2796	2800	2804	2808	2812	2816	2820	2824	2828	2832	2836	2840	2844	2848	2852	2856	2860	2864	2868	2872	2876	2880	2884	2888	2892	2896	2900	2904	2908	2912	2916	2920	2924	2928	2932	2936	2940	2944	2948	2952	2956	2960	2964	2968	2972	2976	2980	2984	2988	2992	2996	3000	3004	3008	3012	3016	3020	3024	3028	3032	3036	3040	3044	3048	3052	3056	3060	3064	3068	3072	3076	3080	3084	3088	3092	3096	3100	3104	3108	3112	3116	3120	3124	3128	3132	3136	3140	3144	3148	3152	3156	3160	3164	3168	3172	3176	3180	3184	3188	3192	3196	3200	3204	3208	3212	3216	3220	3224	3228	3232	3236	3240	3244	3248	3252	3256	3260	3264	3268	3272	3276	3280	3284	3288	3292	3296	3300	3304	3308	3312	3316	3320	3324	3328	3332	3336	3340	3344	3348	3352	3356	3360	3364	3368	3372	3376	3380	3384	3388	3392	3396	3400	3404	3408	3412	3416	3420	3424	3428	3432	3436	3440	3444	3448	3452	3456	3460	3464	3468	3472	3476	3480	3484	3488	3492	3496	3500	3504	3508	3512	3516	3520	3524	3528	3532	3536	3540	3544	3548	3552	3556	3560	3564	3568	3572	3576	3580	3584	3588	3592	3596	3600	3604	3608	3612	3616	3620	3624	3628	3632	3636	3640	3644	3648	3652	3656	3660	3664	3668	3672	3676	3680	3684	3688	3692	3696	3700	3704	3708	3712	3716	3720	3724	3728	3732	3736	3740	3744	3748	3752	3756	3760	3764	3768	3772	3776	3780	3784	3788	3792	3796	3800	3804	3808	3812	3816	3820	3824	3828	3832	3836	3840	3844	3848	3852	3856	3860	3864	3868	3872	3876	3880	3884	3888	3892	3896	3900	3904	3908	3912	3916	3920	3924	3928	3932	3936	3940	3944	3948	3952	3956	3960	3964	3968	3972	3976	3980	3984	3988	3992	3996	4000	4004	4008	4012	4016	4020	4024	4028	4032	4036	4040	4044	4048	4052	4056	4060	4064	4068	4072	4076	4080	4084	4088	4092	4096	4100	4104	4108	4112	4116	4120	4124	4128	4132	4136	4140	4144	4148	4152	4156	4160	4164	4168	4172	4176	4180	4184	4188	4192	4196	4200	4204	4208	4212	4216	4220	4224	4228	4232	4236	4240	4244	4248	4252	4256	4260	4264	4268	4272	4276	4280	4284	4288	4292	4296	4300	4304	4308	4312	4316	4320	4324	4328	4332	4336	4340	4344	4348	4352	4356	4360	4364	4368	4372	4376	4380	4384	4388	4392	4396	4400	4404	4408	4412	4416	4420	4424	4428	4432	4436	4440	4444	4448	4452	4456	4460	4464	4468	4472	4476	4480	4484	4488	4492	4496	4500	4504	4508	4512	4516	4520	4524	4528	4532	4536	4540	4544	4548	4552	4556	4560	4564	4568	4572	4576	4580	4584	4588	4592	4596	4600	4604	4608	4612	4616	4620	4624	4628	4632	4636	4640	4644	4648	4652	4656	4660	4664	4668	4672	4676	4680	4684	4688	4692	4696	4700	4704	4708	4712	4716	4720	4724	4728	4732	4736	4740	4744	4748	4752	4756	4760	4764	4768	4772	4776	4780	4784	4788	4792	4796	4800	4804	4808	4812	4816	4820	4824	4828	4832	4836	4840	4844	4848	4852	4856	4860	4864	4868	4872	4876	4880	4884	4888	4892	4896	4900	4904	4908	4912	4916	4920	4924	4928	4932	4936	4940	4944	4948	4952	4956	4960	4964	4968	4972	4976	4980	4984	4988	4992	4996	5000	5004	5008	5012	5016	5020	5024	5028	5032	5036	5040	5044	5048	5052	5056	5060	5064	5068	5072	5076	5080	5084	5088	5092	5096	5100	5104	5108	5112	5116	5120	5124	5128	5132	5136	5140	5144	5148	5152	5156	5160	5164	5168	5172	5176	5180	5184	5188	5192	5196	5200	5204	5208	5212	5216	5220	5224	5228	5232	5236	5240	5244	5248	5252	5256	5260	5264	5268	5272	5276	5280	5284	5288	5292	5296	5300	5304	5308	5312	5316	5320

TABLE J.

REPORT,
1896.

Deaths in the four quarters of 1896, compared with those in the four quarters of 1895, from divers causes.

DISEASE.	1896.				1895.				1896	1895
	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter. (14 Weeks.)	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total. (53 Weeks.)	Total. (52 Weeks.)
Smallpox	...	...	...	...	...	...	...	...	...	...
Measles	30	89	16	3	5	..	1	2	138	8
Scarlet Fever	8	7	6	7	3	3	3	2	28	11
Diphtheria	2	2	...	2	5	2	...	1	6	8
Whooping Cough..	25	28	13	6	23	8	19	12	72	62
Typhus Fever	...	...	...	...	...	...	1	1	...	2
Enteric Fever	8	3	23	20	12	12	54	51	54	129
Continued Fever...	...	...	...	...	...	...	1	2	...	3
Diarrhoea	5	4	95	14	3	12	199	44	118	258
Syphilis	4	6	5	2	5	2	2	1	17	10
Puerperal Fever...	...	1	...	...	...	...	1	...	1	1
Chronic Alcoholism	...	1	...	2	2	1	2	1	3	6
Rheumatism and Rheumatic Fever	2	6	7	2	...	2	1	1	17	4
Cancer	19	25	27	27	23	20	22	17	98	82
Tabes Mesenterica	4	7	14	6	16	5	21	20	31	62
Tubercular Meningitis	5	8	5	10	11	14	13	10	28	48
Phthisis	56	54	50	47	55	72	50	56	207	233
Other Tubercular Diseases	4	9	14	10	7	8	8	9	37	32
Premature Birth...	14	29	22	34	26	24	18	30	99	98
Old Age	28	43	26	45	52	41	40	30	142	163
Disease of the Nervous System	88	82	81	101	99	82	83	84	352	348
Diseases of the Heart	41	50	33	50	63	46	42	49	174	200
Bronchitis	73	65	35	64	107	69	43	57	237	276
Pneumonia	66	66	40	58	77	36	45	46	230	204
Diseases of the Digestive System	38	39	56	46	42	34	79	48	179	203
Inflammation of the Kidneys and Bright's Disease	9	20	14	10	8	8	9	7	53	32
Accident	19	17	12	12	26	11	19	20	60	76
Homicide	...	...	...	1	...	...	...	1	1	1
Suicide	2	2	...	1	2	3	3	3	5	11

REPORT,
1896.

The Zymotic
Diseases.

CONSIDERATION OF VARIOUS DISEASES.

The death-rate from the "principal Zymotic Diseases" was 3·0 per 1,000, as compared with 2·86 for the 33 great towns in 1896, and 3·5 for Sunderland in 1895.

The following tables show the cases notified, and the deaths for several years past.

TABLE K.

Cases of Infectious Diseases notified since 1886 (Compulsory Notification began in Sunderland in September, 1895).

Year.	Smallpox.	Scarlet Fever.	Diphtheria.	Enteric Fever.	Typhus Fever.	Continued Fever.
1886	...	328	22	106	40	52
1887	...	270	48	149	13	39
1888	10	506	46	152	74	36
1889	6	751	44	170	51	37
1890	...	921	54	311	8	102
1891	...	445	24	271	35	85
1892	2	409	38	284	56	104
1893	36	967	18	801	43	117
1894	8	706	23	588	10	80
1895	1	470	26	840	2	99
1896	1	605	26	260	...	46
Total ...	64	6378	369	3932	332	797

TABLE L.

REPORT,
1896.

The annexed Return shows the deaths from infectious diseases for 23 years (1874-1896):—

Deaths from
Infectious
Diseases,
1874-96.

Years.	Smallpox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Enteric Fever.	Typhus Fever.	Continued Fever.	Diarrhoea.
1874	...	59	140	13	17		53		165
1875	...	5	61	8	133	21	21	3	141
1876	...	42	133	9	53	34	19	11	146
1877	...	1	138	15	63	35	26	6	82
1878	1	93	186	14	175	30	23	6	204
1879	...	1	243	10	44	23	4	6	73
1880	...	99	312	3	73	27	15	10	209
1881	...	3	145	8	40	22	5	5	90
1882	1	191	168	18	106	42	34	11	129
1883	52	16	38	18	22	33	41	4	85
1884	84	7	46	13	95	13	11	4	150
1885	17	385	106	12	32	16	16	4	82
1886	...	4	27	5	51	13	7	6	194
1887	...	168	17	7	59	30	7	6	111
1888	1	4	19	16	46	20	7	6	59
1889	...	126	38	19	68	28	8	1	170
1890	...	19	72	11	52	35	6	4	132
1891	...	148	26	8	40	37	6	12	128
1892	...	121	20	8	99	48	7	5	81
1893	5	17	26	5	23	108	18	9	258
1894	...	119	25	6	65	74	5	4	113
1895	...	8	11	8	62	129	2	3	258
1896	...	138	28	6	72	54	...	...	118

TABLE M.
Showing the cases of Infectious Disease notified in each District in each Quarter, and the Deaths therefrom in 1896.

DISEASES.	Sunderland Sub-District.					Bishopwearmouth North.					Bishopwearmouth South.					Monkwearmouth.					Borough.					
	Quarters.				Totals.	Quarters.				Totals.	Quarters.				Totals.	Quarters.				Totals.						
	1st	2nd	3rd	4th		1st	2nd	3rd	4th		1st	2nd	3rd	4th		1st	2nd	3rd	4th							
Smallpox { Cases .. { Deaths ..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..
Scarlet Fever { Cases .. { Deaths ..	13	8	2	5	28	47	46	63	109	265	73	30	33	57	193	9	38	38	34	119	142	122	136	205	605	
Enteric Fever { Cases .. { Deaths ..	2	3	12	8	25	10	11	24	30	75	13	11	43	26	93	3	6	34	24	67	28	31	113	88	260	
Typhus Fever { Cases .. { Deaths ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
Continued Fever. { Cases .. { Deaths ..	..	..	2	..	2	6	1	9	6	22	..	1	3	5	9	3	2	6	2	13	9	4	20	13	46	
Diphtheria { Cases .. { Deaths ..	1	3	..	1	5	3	7	..	1	11	2	1	..	2	5	1	1	1	2	5	7	12	1	6	26	
Puerperal Fever. { Cases .. { Deaths ..	..	..	..	..	1	..	..	..	..	2	..	1	..	..	1	..	..	..	1	2	2	2	..	2	6	
Totals { Cases .. { Deaths ..	16	14	16	14	60	66	65	96	147	374	89	44	79	90	302	16	49	81	65	211	187	172	272	316	947	
	1	2	4	3	10	6	3	4	10	23	7	3	8	8	26	4	5	13	8	30	19	12	29	29	89	

One case of Smallpox was notified in the second quarter, and was isolated at home, the house being given up to the patient and her nurse.

REPORT,
1896.
—
Smallpox.

During the year the Report of the Royal Commission on Vaccination has been issued. The Report insists strongly on the value of vaccination and re-vaccination as preventives of Smallpox, and suggests certain modifications in the methods of carrying out the vaccination laws.

The experience of Gloucester, during the year, has demonstrated the folly of allowing vaccination to fall into disuse.

Table VII. in the Appendix shows that Sunderland is a fairly well vaccinated community. It must be borne in mind, however, that the protective influence of the infantile vaccination wears off, and all children ought to be revaccinated at the age of 12 to 14. In Prussia there has been no serious outbreak of Smallpox since 1874, when revaccination was made compulsory.

Another important point is that the vaccination should be performed thoroughly. Thus, four marks afford a much greater protection against Smallpox than one mark, and although Table VII. is satisfactory so far as it goes, I have good reason to know that many of the children described as being vaccinated can only show one mark, and are thus very inefficiently protected against Smallpox.

Importance
of efficient
Vaccination.

Measles was very prevalent during the first three quarters, and most fatal during the second quarter. It caused the highest death-rate in the Sunderland Sub-district. It is apt to be looked upon as a slight ailment, and, for that reason, neglected. The result is that it is responsible for more than twice as many deaths as the more dreaded Scarlet Fever, its fatality being usually due to chest complications. It will be noticed that it is usually more fatal in Sunderland than in the rest of England.

Measles.

REPORT,
1896.
—
Scarlet Fever.

Scarlet Fever was prevalent all through the year, and was most fatal in the Monkwearmouth Sub-district. The disease was, as a rule, of a mild type. For several years the case-fatality of Scarlet Fever has been low. Thus the average annual percentage of fatal cases to cases notified for the last four years (1893-96) has been 3·3, and for the six preceding years (1886-92) it was 6·0.

Diphtheria.

Diphtheria was responsible for only six deaths. For the last decade the death-rate from this disease has been only one-third of the English death-rate from the same cause. This disease, for reasons that are as yet imperfectly understood, has increased alarmingly in its prevalence lately in some parts of the country. Table G. shows that Sunderland has not taken part in this increase. Thus the annual average English rate in 1886-90 was 169 per million, and in 1891-95 it increased to 253. For the same periods the Sunderland rate declined from 90 per million to 51.

Whooping
Cough.

Whooping Cough gave rise to a higher death-rate than it has done since 1892. It was most fatal in Sunderland and Monkwearmouth Sub-Districts, and in the first and third quarters of the year. Its fatality, like Measles, is usually due to chest complications, and it consistently accounts for nearly twice as many deaths in this town as Scarlet Fever. It is of interest to note that in Newcastle-upon-Tyne both Measles and Whooping Cough have been added to the list of notifiable diseases during the past year. In Sunderland, disinfection of houses in which deaths are reported from these two diseases is carried out, and also of houses in which non-fatal cases occur, when application is made to the Health Office. Both these diseases are very liable to be spread by the agency of schools, because they are infectious before the disease is recognised. In the case of Whooping Cough, the length of the disease, and the fact that the patient is often not "really ill," are additional factors in its spread.

Enteric or Typhoid Fever is a disease which has, unfortunately, been very prevalent in Sunderland of late years, and demands careful consideration. It will be noticed, on consulting Table K., that Typhoid Fever began to be excessively prevalent in Sunderland about 1889, and its prevalence gradually increased year by year till it reached a climax in the hot, dry summer of 1893, when the disease was extraordinarily prevalent throughout the country. During the wet, cold summer of 1894 it abated comparatively, to reach its maximum in 1895, during which year about 180 cases were, probably, due to milk.

During 1896 it was, as usual, most prevalent in the third quarter. In the Sub-districts it caused the highest death-rate in Monkwearmouth, and the second highest in Sunderland, but it was excessively prevalent in all of them. It has been observed that both Diarrhœa and Typhoid Fever usually reach their yearly maxima when the ground is hottest, as ascertained from the readings of the 4-foot earth thermometer, the Diarrhœa (deaths) maximum coinciding with this period, and the Typhoid (notifications) maximum ensuing a week or a fortnight later, the longer incubation period of Typhoid Fever accounting for the difference.

Taking the averages since 1888, the 34th week gives the maximum ^{for} deaths from Diarrhœa, namely, 13·3, the 35th week being second, with 12·4, while the 36th week gives the maximum for Typhoid Fever notifications, namely, 27·2, the 37th week being second, with 27·1.

During the year a special report on the prevalence of Typhoid Fever in Sunderland was made. The report showed that Typhoid Fever was more prevalent during 1890-5 in towns where the method of excrement disposal was largely by privy middens than in towns where the water-carriage system was in use.

Tables N and O show that the same holds good for 1896.

REPORT,
1896.

TABLE N.

List of privy-midden towns, *i.e.* towns in which the number of privy-middens approximates or exceeds 5 per cent. of the population.

TOWNS.	DEATH-RATES PER 1000 IN 1896 FROM		
	ALL CAUSES.	"FEVER."	DIARRHŒA.
Aston Manor	15·5	·19	1·68
Ashton-under-Lyne	21·2	·40	·99
Barnsley	20·8	·21	1·0
Bolton	20·7	·39	1·09
Bradford	16·5	·12	·38
Burnley	17·5	·12	·70
Darlington	14·6	·13	·33
Derby	15·7	·20	·65
Dudley ..	22·6	·35	1·29
Gateshead	19·1	·22	·72
Hanley	22·9	·25	·53
Hull	18·9	·28	·90
Ipswich	17·1	·15	1·01
Leeds	18·8	·21	·69
Middlesbro'	18·8	·43	·38
Norwich	17·4	·19	·74
Preston	20·8	·22	1·11
Rotherham	16·2	·19	·92
St. Helens	20·2	·50	·99
Salford	22·6	·33	1·23
Sheffield	19·3	·29	1·02
Smethwick	16·6	·18	·55
South Shields	17·5	·25	·54
Sunderland	19·8	·37	·85
Stockport	20·7	·29	1·17
Walsall	17·8	·14	·96
West Bromwich	20·5	·33	·75
York	18·1	·18	1·63
Average	18·86	·254	·89

TABLE O.

List of Water-closet Towns.

REPORT,
1896.

TOWNS.	DEATH-RATES PER 1000 IN 1896 FROM		
	ALL CAUSES.	"FEVER."	DIARRHŒA.
Brighton	16·1	·11	·60
Bristol	16·9	·08	·52
Cardiff	16·8	·08	·77
Carlisle	18·3	·05	·02
Coventry	16·7	·21	·99
Croydon	14·2	·15	·43
Exeter	18·3	·35	·80
Liverpool	22·7	·32	1·16
London	18·6	·14	·72
Oxford	16·1	·08	·29
Plymouth	19·6	·07	·83
Portsmouth	16·6	·15	·73
Walthamstow	11·8	·27	·67
West Ham	16·1	·23	·81
Willesden	13·4	·11	·76
Worcester	19·0	·09	1·37
Averages	16·95	·155	·72

Tables N. and O. do not include the same towns as the tables in the special report, because Scotch and Irish towns and towns which are to a great extent pleasure resorts are left out.

REPORT,
1896.

The infective matter of Typhoid Fever is capable of resisting frost, so it is easy to understand how, when thrown into the open pervious-bottomed privy-middens in the autumn of, say, 1895, it is capable of living in the soil through the winter, to propagate and grow when the ground gets hot during the summer, and cause fresh cases of the disease in 1896. A few instances, selected from many, where this has probably occurred, are given later on. The Health Committee have made special efforts during the year to combat this effect by continuing the system begun in the autumn of 1895, of collecting in pails and subsequently disinfecting the excreta of patients, and also by disinfecting (with Per-chloride of Mercury and Chlorinated Lime) the privy-middens of houses where cases of the Fever occurred. The necessity for the latter measure arises from the fact that the onset of the disease is so insidious that the infective excreta may easily be thrown into the midden for a fortnight or more before the disease is notified. 840 cases were notified in 1895 and 260 in 1896, so that it is not unreasonable to attribute some portion of this decline to these measures. It is well, however, not to be too sanguine on this point, for the difficulty of really disinfecting a privy-midden, and the soil percolated by its contents, must be great.

The street list, pp. xxx.-xlii., shows how obstinately this Fever has clung to certain streets for the last few years. The list also shows that, during the same period, two of the worst districts have been—firstly, that situated between Hendon Road and the Moor, North of the Railway ; secondly, that situated in the neighbourhood of the Ballast Hills, Ayre's Quay Street, Hopper Street, Johnson Street, and Hope Street. These two districts have been chiefly peculiar, from an insanitary point of view, in having within their boundaries a large number of wheel-out privy middens, *i.e.*, middens situated in a yard between two houses, the contents of which, when emptied, have to be pitched out into the yard, and then wheeled

through a passage in one of the houses, the passage, as a rule, being in direct communication with living rooms.

REPORT,
1896.

A large number of these yards have been immensely improved during the year by the conversion of the privy-middens into water-closets. When the remainder have been dealt with, I feel confident that these districts will lose their unenviable reputation for Typhoid Fever.

The streets which have been consistently specially visited by Typhoid Fever during the last few years may be readily seen in the list, pages xxx-xlii, in studying which it is necessary to bear in mind the varying lengths of the streets. The milk epidemic of 1895 chiefly affected the streets in the neighbourhood of Hendon Road, South of the Railway. The following are examples of instances where Typhoid Fever has clung to the neighbourhood of individual houses year after year :—

SOUTH JOHNSON STREET.

1893.	1894.	1895.
1 case at No. 41...		
1 „ „ No. 44...	1 case at No. 49 ...	1 case at No. 48
2 cases at No. 45...	1 „ „ No. 50 ...	
2 „ „ No. 46...	1 „ „ No. 51 ...	

HOPE STREET.

1893.	1894.	1895.
1 case at No. 4...	1 case at No. 5 ...	
1 „ „ No. 24...	1 „ „ No. 24 ...	1 case at No. 24
1 „ „ No. 51 ..	1 „ „ No. 51 ...	

HETTON STREET.

1893.	1894.
1 case at No. 9	1 case at No. 10

HOPPER STREET AND BACK HOPPER STREET.

1893.	1894.	1895.
2 cases at No. 7...		1 case at No. 6
1 case at No. 8...		
2 cases at No. 19	1 case at No. 19	
(Back)	(Back) ...	

REPORT,
1896.

HANOVER PLACE.

1893.	1894.	1895.
1 case at No. 6...	1 case at No. 8 ...	
1 „ „ No. 26...	1 „ „ No. 28 ...	1 case at No. 29

AYRE'S QUAY STREET.

1893.	1894.	1895.	1896.
1 case at No. 5...	2 cases at No. 5...		
1 „ „ No. 9...			
1 „ „ No. 10...	2 „ „ No. 14...	1 case at No. 11...	1 case at No. 12

CRESCENT ROW.

1893.	1894.	1895.
1 case at No. 6 ...	1 case at No. 4	
1 „ „ No. 9 ...	1 „ „ No. 5	
2 cases at No. 20 ...	1 „ „ No. 23	
1 case at No. 21 ...	(Back)	
2 cases at No. 24 ...	1 „ „ No. 24 ...	1 case at No. 24
1 case at No. 26 ...	1 „ „ No. 26	
1 „ „ No. 28 ...		
1 „ „ No. 32 ...	1 „ „ No. 32 ...	1 „ „ No. 35
1 „ „ No. 38 ...	1 „ „ No. 41	(Back)

FARRINGTON ROW.

1893.	1894.	1895.	1896.
1 case at No. 1		1 case at No. 1...	
(Back)			
1 case at No. 2			
(Back)			
1 case at No. 16...	1 case at No. 15..	2 cases at No. 16	1 case at No. 19
		1 case at No. 20	
		(Back)	
	2 cases at No. 23	1 case at No. 21	
		(Back)	
	1 case at No. 24..	2 cases at No. 22	
	1 „ at No. 26..	1 case at No. 26	1 case at No. 31,

JOHN STREET WEST.

1893.	1894.
3 cases at No. 3	1 case at No. 1.
	1 „ „ No. 2.
	1 „ „ No. 4.

WELLINGTON LANE.

REPORT,
1896.

1893.

1894.

1895.

1896.

1 case at No. 21... 1 case at No. 22... 1 case at No. 1.. 1 case at No. 2

WOODBINE STREET.

1894.

1895.

1896.

1 case at No. 2 ... 1 case at No. 2 ...

1 „ „ No. 31 ... 1 „ „ No. 32 ... 1 case at No. 32

1 „ „ No. 35 ... 1 „ „ No. 34

BROUGHAM STREET.

1893.

1894.

1895.

1896.

1 case at No. 45... 1 case at No. 46... 1 case at No. 48...

2 cases at No. 47..

1 case at No. 48... ...

2 cases at No. 11... 1 case at No. 11
(Back)

1 case at No. 12... 1 case at No. 14

HENRY STREET.

1893.

1894.

1895.

1896.

1 case at No. 17 1 case at No. 19... 4 cases at No. 18... 3 cases at No. 17

(Back)

1 case at No. 19... 1 case at No. 18

WEAR STREET, TYNE STREET, AND TEES STREET.

1893.

1894.

1895.

1896.

1 case at No. 81, 1 case at No. 81, 1 case at No. 80,

Wear Street Wear Street Wear Street

3 cases at No. 63, 1 case at No. 36, 1 case at No. 83,

Tees Street Wear Street Wear Street

1 case at No. 59,

1 case at No. 35, 1 case at No.

Tees Street

Wear Street 58, Tees Street

1 case at No. 36,

Wear Street

1 case at No. 13,

1 case at No. 80,

Tyne Street

Wear Street

N.B.—36 and 37, Wear Street and 58 and 59, Tees Street had one midden in common.

N.B.—13, Tyne Street and 80, Wear Street had one midden in common.

MILBURN STREET.

1895.

1896.

3 cases at No. 26

1 case at No. 26

1 case at No. 27

6 cases at No. 24

REPORT,
1896.
—
Typhoid Fever
and
Milk Supply.

The milk supply of the households infected with Typhoid Fever was as follows :—

One dairy supplied nine households.				
Two dairies supplied five households each.				
Two	„	four	„	„
Five	„	three	„	„
Seven	„	two	„	„
Sixty-five	„	one	„	„

37 households described their milk supply as “anywhere,” and 70 households used condensed milk. In no case was there reason to blame the milk supply for the occurrence of Fever.

Reasons for
blaming the
privy-middens
for the
excessive
prevalence of
Typhoid
Fever in
Sunderland.

To sum up, the reasons which induce me to believe that the privy-middens are largely to blame for the continued excessive prevalence of the disease in Sunderland during the last few years, are the following :—

Firstly.—Negative reasons :—

1. There is no reason to suspect the water supply.
2. There is no reason to blame the milk supply except for less than one-fourth of the cases that occurred in 1895, and there is no reason to blame the milk supply for any of the cases that occurred in 1896.

3. There is no evidence to inculcate the sewers to any extent. Modern investigations all tend to show the unlikelihood of the sewers giving off the actual germs of Typhoid Fever. The effect, however, of sewer emanations in rendering those who are exposed to infection more likely to take the disease is generally recognised. It is also possible that leaky house drains by infection of the superficial soil, and heavy rainfalls by causing floods of sewage, may originate the disease directly.

Secondly.—Positive reasons :—

1. That Typhoid Fever is more prevalent in privy-midden towns than in water-closet towns.

2. That in towns where both privy-middens and water-closets are in use, the incidence of Typhoid Fever is greater on the houses served by privy-middens than on the houses served by water-closets.

3. That in Sunderland the districts in the neighbourhood of Johnson Street, Ayre's Quay Street, &c., and in the neighbourhood of Hendon Road (where the privy-middens have been in most intimate contact with the houses by being situated in the yards between two houses, so that their contents have to be pitched out into the yard and then wheeled through one of the houses), Typhoid Fever has been especially prevalent for several years.

4. That in Sunderland Typhoid Fever has obstinately clung for several years to certain streets served by privy-middens, and to the immediate neighbourhood of certain houses served by privy-middens.

Here let me state that every effort to have the privy-middens emptied regularly is made, but, of course, greater frequency of emptying in the case of high hatched open privy-middens means more frequent pollution of the street, and no frequency of emptying will interrupt the continual pollution of the ground by their contents.

Of course it is easy to conceive that a town served by privy-middens might keep clear of undue prevalence of Typhoid Fever, just as an unvaccinated community might keep clear of Smallpox, but, once it has gained a foothold, such a town may be expected to foster its spread.

In 1895 there were 840 cases of Typhoid Fever notified, with 129 deaths, or a case fatality of 15·4 per cent.

Increased case
fatality of
Enteric Fever.

In 1896 there were 260 cases notified, with 54 deaths, or a death-rate of 20·8 per cent.

Diarrhœa and Typhoid Fever are classed together as the principal filth diseases, and resemble one another in many points as to their causation. Diarrhœa caused 118 deaths in 1896, as compared with 258 in 1895. Of the 118 deaths 95 occurred in the third quarter of the year, and the Sunderland Sub-district gave by far the highest death-rate.

Diarrhœa.

REPORT,
1896.

Ninety-one of the deaths were those of children under one year, and 103 of the deaths were those of children under two years. No doubt improper and careless feeding had its share in bringing about these deaths, but, as in the case of Typhoid Fever, soil pollution is now recognised as an important factor in the causation of Diarrhœa, and is most operative when the temperature of the ground reaches its highest for the year. This usually happens about the end of August.

In looking at the rates of the last ten years we note that the Sunderland rate from Diarrhœa is about double the English one.

Diseases of the
Digestive
System.

Diseases of the Digestive System accounted for 24 fewer deaths in 1896 than in 1895. The decline under this heading and under that of Diarrhœa is, I have no doubt, largely due to the absence of prolonged dry, hot weather during the third quarter of 1896.

The deaths in this group from Diseases of the Stomach and Enteritis should be taken into account in estimating the Diarrhœal mortality of a district. Thus Monkwearmouth Sub-district in 1896 makes up for a very low Diarrhœa death-rate by having a very high rate for Enteritis and Diseases of the Stomach. This is explained by the fact that what some practitioners would certify as a death from Diarrhœa others would certify as a death from Gastro-Enteritis or Enteritis.

Rheumatic
Diseases.

Rheumatic Diseases caused a higher death-rate than in former years. The Sunderland rate during the last decade has only been one-half of the English rate. Only one death has been reported from these causes in both the Monkwearmouth and Sunderland Sub-districts during the last four years.

Diseases of the
Circulatory
System.

The chief items under this heading are Heart Diseases of various kinds. Rheumatism being one of the principal causes of valvular disease of the heart, it is not surprising to find that the mortality from the diseases of the circulatory system is low when compared with the English rate.

There were 98 deaths from Cancer in 1896, as compared with 82 in the preceding year. The deaths were equally distributed throughout the year, and the mortality was heaviest in the Sunderland Sub-district. During the last decade, the Sunderland rate was lower than the English one, but both rates have increased steadily during the decade.

Thus the average annual rate per million from this disease rose in Sunderland from 562 in the first half of the decade to 632 in the second half, and in England from 631 to 712.

During the decennium, 1876-1885, the average annual rate per million was only 417, while in England, during the decennia, 1850-60, 1860-70, and 1870-80, the rates were 315, 387, and 470 respectively.

Cancer is a disease of advanced life, and the decline in the death-rates at earlier ages means that more people now reach the Cancer-age than formerly. This may account for some portion of the increase. To what extent greater accuracy in medical diagnosis and the discovery of Cancer by the performance of surgical operations in cases where, owing to no operation being attempted, the diseased condition would formerly have remained obscure, have caused an apparent increase in the mortality from this disease, it is impossible to say, but the figures are certainly startling.

This heading includes Phthisis or Consumption of the Lungs, Tabes Mesenterica or Consumption of the Glands of the Abdomen, Tubercular Meningitis or Consumption of the Brain, Tubercular Disease of the Intestines, and all other Tubercular and Scrofulous Diseases. Tuberculosis.

Of these, Phthisis or Consumption of the Lungs is the most important as a cause of death. The death-rate from Phthisis was lower in 1896 than in any year of the preceding decade, probably owing to the absence of severe weather.

REPORT,
1896.
—
Tuberculosis

Table G. shows that the Sunderland rate from Phthisis is considerably higher than the English rate.

The death-rate from all the other Tubercular Diseases, which has been very high in Sunderland during the last decade compared with the English rate, also showed a marked decline in 1896.

The infectious nature of these diseases is now recognised, and, with the approval of the Committee, the following "Letter" and "Pamphlet of Instructions" were circulated in the district during the year.

Health Department,
Town Hall,
Sunderland.

Dear Sir (or Madam),

It is now known (1) that Koch's bacillus is the cause of Consumption or Tuberculosis, and that no case of this disease can arise without the presence of this bacillus, and (2) that this bacillus is only found in the bodies of persons and animals suffering from Consumption or Tuberculosis, and in the discharges that proceed from the affected parts of their bodies. It, therefore, follows that every case of Consumption must be due to infection from a previous case, and that Consumption must be henceforth classed among the preventible or infectious diseases.

It is encouraging to know that it is extremely rare for a child to be infected at birth, and that, however much predisposed it may be to catch the disease, it cannot do so unless it is exposed to the infection.

Consumption in its different forms, causes more deaths than all the other infectious diseases put together. About one person in every eight dies from it.

It, therefore, becomes the duty of the Sanitary Authorities to publish as widely as possible the directions for the prevention of this deadly disease, and it is with that object that I take the liberty of writing to ask you, when the opportunity occurs, to do what you can to induce sufferers from the disease to take such precautions as will render them no longer a danger to those with whom they come in contact.

I enclose a copy of instructions, and will be very pleased to supply you with more if you find opportunities for disposing of them with advantage.

If you will also urge the advisability of application being made to the Health Office for the disinfection of the room, occupied by a consumptive from time to time during the illness, and the vital importance of having this done before a room, which has been occupied by a consumptive, is occupied by any one else, I think much good would be done.

Lastly, the endeavour to stop the spread of the infection will in no way lessen the importance of doing all that can be done to guard against the evil effects of agencies which notoriously make persons more liable to take Consumption, such as dark, damp, or ill-ventilated houses, overcrowding, alcoholic excesses, dusty occupations, neglect of patients recovering from illnesses such as measles, whooping cough, typhoid fever, influenza, chest affections, &c.

I am,

Yours, &c.

INSTRUCTIONS TO PREVENT THE SPREAD OF CONSUMPTION.

All cases of Consumption (or Tuberculosis) arise from other cases of Consumption by infection. In order to guard against infection, certain simple precautions are necessary.

- (1.) The first precaution is to see that the spit or matter coughed up by a person suffering from Consumption, is never allowed to become dry.

If the patient spits into a handkerchief, and allows the handkerchief to become dry, when the handkerchief is next opened out, the dried-up spit or matter will be scattered about in the air of the room.

If the patient spits on the floor, the spit or matter will become dry and mix with the dust, and be scattered through the air of the room.

The air of such a room will lessen the patient's own chance of recovery, by exposing the healthy part of his lungs to infection, and will also be liable to infect any other person who uses the room.

The patient must also be careful not to swallow the matter which he coughs up, as this would be likely to cause consumption of the bowels.

The patient must see that the spit or coughed-up matter never has a chance of becoming dry, and mixing with the dust of the room.

REPORT,
1896.
—
Tuberculosis.

REPORT,
1896.
—
Tuberculosis.

When in the house he should spit into the fire or into rags or paper, which are burned immediately, or else into a spittoon containing water, which should be emptied down the water-closet or yard gully daily and then washed out with boiling water. If he uses a handkerchief, when out, it should be put into water immediately on his return home, till it is convenient to have it boiled.

- (2.) On account of the infection in the spit and coughed-up matter, no one ought to kiss a consumptive patient on the mouth or use the same cups, glasses, or spoons, until they have been washed.
- (3.) As, in violent fits of coughing, the coughed-up matter is bound to be scattered more or less over the bedclothes or about the room, especially in the later stages of the illness, it is very important to have the patient's room as free from dust as possible. There should be no unnecessary hangings, and the rooms should be cleansed every day with *damp dusters*, and the floor washed once a week, or oftener. Dust is to be removed from the room, not stirred up in it, and therefore dry dusters, feather brushes, and such like must not be used. The bed-clothes should be washed frequently in boiling water. The Health Department will, on application, stove the bedding and spray the room with disinfectants at intervals during the illness. The spraying only takes about an hour, and the room can be used very soon afterwards.
- (4.) From what has been said it will readily be understood that the patient should, if possible, have a separate bedroom and, if that cannot be managed, at any rate a separate bed. The room should be as much exposed to the sun as possible, because the sunlight kills the infection. The room should also have plenty of fresh air let into it, so as to dilute the infection as much as possible.
- (5.) Any discharge from an abscess or sore of the consumptive patient should be treated similarly to the spit and coughed-up matter, and never be allowed the chance of drying and mixing with the dust of the room.
- (6.) The room which has been occupied by a consumptive patient should never be occupied by anyone else, until it has been disinfected by the Health Department,

(7.) Consumptive mothers should *not suckle* their children.

REPORT,
1896.

(8.) As Consumption is very common indeed among cattle, all cow's milk should be boiled before use, and all beef well cooked.

—
Tuberculosis

These precautions seem lengthy, but they can be summed up shortly.

Never give the spit, coughed-up matter, or other discharge from a consumptive a chance of drying. Give the patient a separate room, if possible, and keep that room free from dust by having no unnecessary hangings, by using damp dusters, and by weekly floor-washings. Apply to the Health Department to disinfect the room and stove the bedding both during the illness and at the end of the illness. Boil cow's milk before use, and thoroughly cook all beef.

Since the issue of these circulars the disinfection of rooms after deaths from Consumption has been carried out regularly.

The effect of insanitary conditions in increasing the prevalence of the tubercular diseases has long been recognised, but the recognition of their infectious nature entitles them more than ever to be classed among preventible diseases.

During the last decade Tuberculosis accounted for one-eighth of all the deaths in Sunderland, or, in other words, more deaths than all the other infectious diseases put together.

Tuberculosis is very common in cattle, and the danger of the disease being conveyed by cows' milk is a very real one. A Royal Commission is at present considering what are the best means of guarding against this danger.

The tuberculin test is an almost infallible means of detecting the disease when it is unrecognisable by ordinary examination, and during the year the Hospital Sub-Committee arranged that the herd supplying the Hospital with milk should be tested and examined by a Veterinary Surgeon, the farmer agreeing to get rid of any animals which failed to pass the test or the examination of the Veterinary Surgeon.

REPORT,
1896.

With the authority of the Committee I wrote to several institutions in the Borough, drawing their attention to this matter, with the result that several of them have taken some action. The Infirmary management have, I believe, quite recently decided to get their milk only from tested animals. Competent authorities estimate that 20 per cent. of the adult cattle in this country are affected by Tuberculosis, and it is not, therefore, unreasonable to attribute much of the consumption of the bowels, which is so common among children at the age when milk forms their chief food, to this cause. The matter is being taken up by dairy farmers and breeders throughout the country, and I fancy, if any farmer in this district were enterprising enough to supply milk from tested animals only, he would rapidly get a very big custom, even if he charged a little more for the milk. It would, I think, be quite feasible for the Sanitary Authority, on being satisfied that a farmer was supplying such milk, to grant him a certificate to that effect.

Diseases of the
Respiratory
System.

Diseases of the Respiratory System gave rise to a lower mortality than has been recorded in any year of the previous decade, and this was, probably, owing to the absence of severe weather. Owing to the same cause, too, the deaths from this class of diseases were more evenly distributed throughout the year. During the ten years, 1886-95, the Sunderland death-rate from these causes has been one-fifth higher than the English rate; and, at first sight, one might be inclined to attribute this to the climate. A more minute analysis of these causes of death tends, however, to dispel this idea, for we find that, of the two diseases which cause the bulk of these deaths, namely, Bronchitis and Pneumonia, while Bronchitis caused a rate in Sunderland very little higher than the English one, Pneumonia gave rise to a rate nearly double the English one.

We find also that, while the mortality from Bronchitis in Sunderland was much less in 1896 than in 1895, the

mortality from Pneumonia was greater in 1896 than in 1895.

REPORT,
1896.

There are several different varieties of Pneumonia, and it is now generally recognised that, while the prevalence of some form of Pneumonia varies, like Bronchitis, with the changeableness and severity of the weather, the prevalence of other forms is largely influenced by unwholesome conditions of life, such as overcrowding, defective ventilation, dampness and pollution of the soil, exposure to sewer emanations, filth accumulations, and the like.

Table P. shows that the fatality of Bronchitis and Pneumonia have not, by any means, varied coincidentally during the last eleven years in Sunderland.

TABLE P.

Showing the deaths from Pneumonia and Bronchitis in each quarter from 1886 to 1896.

Year.	BRONCHITIS.					PNEUMONIA.				
	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Totals.	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.	Totals.
1886	130	73	42	69	314	38	44	31	43	156
1887	72	51	35	77	235	34	41	34	87	196
1888	76	59	36	77	248	57	57	31	76	221
1889	69	89	87	60	305	37	105	82	65	289
1890	119	88	70	123	400	104	107	50	96	357
1891	108	100	55	136	399	84	76	56	77	293
1892	75	77	37	77	266	74	68	60	61	253
1893	65	70	81	44	260	67	93	45	73	278
1894	58	55	31	95	239	76	65	57	84	282
1895	107	69	43	57	276	77	36	45	46	204
1896	73	65	35	64	273	66	66	40	58	230

REPORT,
1896.—
Infantile
Mortality.

During the year there were 786 deaths among children under 12 months old. Of these 18 were returned as being due to Measles, 36 to Whooping Cough, 13 to Syphilis, 91 to Diarrhœa, 10 to Tabes Mesenterica, 92 to Inflammation of the Brain and Convulsions, 112 to Bronchitis and Pneumonia, 17 to Dentition, 32 to Enteritis, 193 to Debility, Marasmus, &c., and 99 to Premature Birth.

The third quarter of the year being that in which most of the Diarrhœa deaths occurred, shows the heaviest Infantile Mortality.

The Infantile Mortality is usually expressed by giving the number of deaths under one year per 1,000 births.

Table F. shows that Sunderland, according to the Registrar General, comes eighth among the 33 towns in 1896, with a rate of 158, as compared with an average of 167 for the 33 towns.

Infantile
Mortality
in the
sub-districts.

Table H. shows that Sunderland Sub-district has had an average Infantile Mortality of 220 during 1892-96, Monkwearmouth being next highest with 184, Bishopwearmouth North third with 168, and Bishopwearmouth South the lowest with 155. In 1896 the Sub-districts showed the same order, but a lower mortality in each case.

Table G. shows that Sunderland had an average Infantile Mortality of 168 during the past decade, as compared with 148 for the whole of England.

In the remarks that follow, some of the important features of the death-rates which have prevailed in the Borough and its Sub-Districts during the last few years are considered. In comparing with the English rates, the average for the ten years 1886 to 1895 is taken; but in the comparison of the Sub-Districts with one another, the average for the five years from 1892 to 1896 is used, because before that time the deaths in the Workhouse and Infirmary were not distributed to the Sub-Districts to which they belonged.

The low mortality from Rheumatic Diseases, and death-rates from Diseases of the Circulatory System and Bronchitis, about equal to the English rates, seem to justify the assertion that the climate, from a health point of view, at any rate, is not a bad one.

The low rate from Diphtheria is also satisfactory, although the fact, before mentioned, that this disease has lately increased alarmingly in some districts in England without discoverable cause, makes one apprehensive as to the future.

The unsatisfactory features about the Sunderland mortality are the high rates from Typhoid Fever and Diarrhœa, from Measles and Pneumonia, and from Phthisis and other Tubercular diseases.

For the reduction of the mortality from Typhoid Fever and Diarrhœa, we must look to more cleanly methods for the removal of excreta, the keeping of the sewers as free from nuisance as possible by adequate flushing and the replacement of defective old sewers by new ones, the better paving of yards and passages, so as to admit of cleaner surroundings to the houses (badly paved yards being also a frequent cause of dampness in houses), firm treatment of dirty and careless tenants, &c.

As regards the high rate from Measles, Pneumonia, Phthisis, and other Tubercular Diseases, damp ill-ventilated houses and overcrowding are undoubtedly powerful contributory factors in their causation, and the utilisation

REPORT, 1896.

—
General Remarks on the
Sunderland
Death-Rate.

Satisfactory
Features.

Unsatisfac-
tory Features.

Measures
likely to
effect
Improvement.

REPORT,
1896.

of the powers conferred by the Housing of the Working Classes Act, the enforcement of precautions to guard against dampness in houses, and the adoption of regulations to prevent overcrowding in tenemented houses are among the measures we must look to for effecting an improvement.

Proposed
Measures.

It will not be out of place here to refer to the proposed Bye-laws for new buildings which have been drafted by a Sub-Committee during the year, and which, since the close of the year, have been discussed by various Committees of the Corporation.

Damp-courses
and Concreted
Sites.

The proposed Bye-laws contain clauses for the provision of damp-courses and concreted sites for all new houses.

As to the necessity for the former, there is, I believe, no difference of opinion, but as to the necessity for the latter, there seems to be a good deal of difference of opinion.

The object in view in having the site of a house covered with concrete, is to guard against the injurious effects of ground air and damp, and the two kinds of ground respectively for which this precaution is considered specially necessary, are "made ground" and ground with a clay sub-soil. Practically the whole of Sunderland is built either on clay or made ground, and all the extensions of the Borough at present in Monkwearmouth and Bishopwearmouth North and Bishopwearmouth South are taking place over thick beds of clay.

Effects of a
Clay Sub-Soil.

In 18⁶96 Dr. Buchanan (in the Tenth Report of the Medical Officer of the Privy Council) showed the effect of a clay sub-soil in increasing the prevalence of Phthisis in England.

A few years previous to this Dr. Bowditch, of Boston, obtained similar results in America. Since that date the discoveries of these two observers have been corroborated, and the truth of their conclusions is now acknowledged.

Dr. Blaxall, in a Local Government Board Inspection at Swindon, found diseases affecting the Respiratory System were more fatal in New Swindon, which is built on clay, than in Old Swindon, which is built on limestone and sand, and he attributed this to the dampness of the sub-soil on which the new houses were built, and the complete absence of precautions to prevent the ground air rising into the houses.

REPORT,
1896.
Effects of a
clay sub-soil.

The evil effect of the clay sub-soil is due to the fact that the rain which sinks into the surface soil cannot penetrate through the clay, and thus renders the surface soil damp. This effect will be worse according to the difficulty which water has in running off on the surface of the clay. Thus clay in a valley or depression will be worst, clay on a flat surface coming next, clay on a sloping surface next, and clay on the top of a hill will have the least effect.

The excavation here and there of a portion of the thickness of the clay, will have the effect of draining water flowing on the surface of the surrounding higher clay into the cavity formed, and forming a pond, and the filling up of this pond with tippings will produce about the dampest possible site for houses.

Of the four Sub-Districts in Sunderland, Bishopwearmouth South, including, as it does, the Parks and a great portion of the best residential property in the Borough, and being freeer from slums than the other Sub-Districts, shows, as might be expected, the most satisfactory death rates from nearly every cause.

Bishopwearmouth North
Sub-District.

The Sunderland Sub-District, on the other hand, the condition of which is notorious, shows the worst death rates from nearly every cause, the death rate from all causes being half as high again as that in the rest of the Borough.

Sunderland
Sub-District.

REPORT,
1896.

—
Comparison
between
Monkwear-
mouth and
Bishopwear-
mouth North.

Of the other two Sub-Districts, I think anyone who is familiar with them will agree that, for general sanitary conditions, the population of Bishopwearmouth North are, on the whole, better off than the population of Monkwearmouth ; and this is borne out by the fact that the Infantile mortality, the death rates from Diarrhœa, and Diseases of the Stomach and Enteritis taken together, and the death-rate from "other Tubercular Diseases," are considerably higher in Monkwearmouth than in Bishopwearmouth North. In the causation of all these diseases, overcrowding, unsanitary dwellings, poverty, ignorance, and neglect play a powerful part, and the same may be said of such diseases as Measles, Whooping Cough, Bronchitis, and Pneumonia. Deaths from Measles and Whooping Cough are, as a rule, actually caused by Bronchitis and Pneumonia ensuing as complications, so that, in order to avoid fallacies arising from the varying custom of the different medical practitioners in recording the deaths from these causes, it will be more accurate, in a comparison of two districts, to compare the rates from all these causes taken together. By so doing, we find that Bishopwearmouth North shows a higher rate than Monkwearmouth for Measles, Whooping Cough, and Respiratory Diseases taken together. On comparing the Phthisis death-rates in the two districts, we find a marked difference, and that the rate in Bishopwearmouth North is half as high again as that in Monkwearmouth, being 1,937 as against 1,302. The death-rates from all causes are about the same.

Over the greater part of Monkwearmouth, South of Roker Avenue the clay is covered by sand and ships' ballast (*i.e.*, sand and gravel). From the colliery to about Church Street there is a depth of sand for the most part about 8 feet thick, the first 6 or 7 feet being dry, and the lower layers wet as it approaches the clay. From Church Street to the river the clay has been covered by a great thickness of ballast, and the sewers are laid in this ballast, which is found to be dry, at depths varying from 8 to 16 feet.

In Bishopwearmouth North, with the exception of a small portion of Deptford built on ballast, and a small portion near Bridge Street, where the clay thins off to nothing and the magnesian limestone comes to the surface, the houses are built either over clay, or over "made ground" in places where the clay has been dug out to a certain depth and the hole filled up by tippings, thus intensifying the action of the clay in producing a damp site.

It is quite possible that these considerations with regard to the clay in the two Sub-Districts may to some extent explain why Bishopwearmouth North has a markedly higher death-rate from Phthisis and an appreciably higher rate from Diseases of the Respiratory System than Monkwearmouth, while in the case of other diseases depending on sanitary conditions the position is reversed.

Typhoid Fever, Diarrhœa, Pneumonia, and Septic Diseases, such as Erysipelas, Pyæmia, and Puerperal Fever, are among the Diseases in the causation of which polluted ground air has been said to play a part.

Effects of
Ground Air.

The 1897 Code of the Education Department contains amongst the Building Rules (p. 70) the following:—

Building
Rules of the
Education
Department.

Par. 4. (e) All walls, not excepting fence walls, should have a damp-proof course just above the ground line.

(f) The vegetable soil within the area of the building should be removed, the whole space covered by a layer of concrete not less than six inches thick, and air bricks inserted in opposite walls to ensure a through current of air under floors for ventilation of joists.

Thus these precautions are apparently thought necessary for schools, which are occupied only in the day time.

REPORT,
1896.

—
Special
Reasons for
Precautions
against
Ground Air
and Damp in
Sunderland.

The reasons, then, for which I think all reasonable precautions against damp and ground air are specially applicable to Sunderland are:—

(1) The town is nearly all built on clay or made ground.

(2) The death-rates from various diseases, namely, Measles, Pneumonia, Phthisis, Typhoid Fever, and Diarrhœa, in the fatality of which a clay subsoil and ground air play a part, are excessive.

(3) The new districts, which are at present being built over, are covered by thick beds of clay, and as the majority of the new houses are one-storeyed cottages, the rooms on the ground floor will be used both as day-rooms and bed-rooms.

Water-Closets
for
New Houses.

Another proposal of the new Bye-laws, as drafted, is the adoption of water-closets for all new houses. In criticising this proposal, the committee of architects and builders say, “the ultimate carriage of the soil may lead in the near future to a terribly expensive scheme for the disposal of the sewage of Sunderland.” I do not think that it is fair to saddle the water-closet system with the necessity which there may be now or in the near future for new sewers, even if the water-closet system be made universal throughout the town, and my reasons for holding this opinion are the following:—

(1) The sewage of a midden town is just as objectionable as that of a water-closet town, so that the same precautions as to the construction of the sewers and as to the keeping of the sewers in good order and free from nuisance is necessary in each case.

(2) The excreta of a population, together with the water required to flush the water-closets, are very small in amount in comparison with the waste water and the rain water.

Take a cottage with a superficial area of 150 square yards and seven occupants. Half an inch of rainfall, falling on the roof and paved yard, means 350 gallons of water to be removed by the sewers.

As the two-gallon cisterns discharge about $1\frac{3}{4}$ gallons, four gallons per head daily would be a fair average amount to reckon for excreta and flushing water, and that for seven persons is 28 gallons per diem.

In addition to rain and water-closet sewage, the sewers have to carry off an amount of water used for domestic and trade purposes, which is variously reckoned at from 10 to 20 gallons per head of a town population.

To put it in another way, the additional sewerage from the 100,000 people in Sunderland, who at present use dry-closets, using water-closets, would amount to about 400,000 gallons daily, and be equivalent to a rainfall of $\frac{1}{180}$ of an inch within the municipal boundary.

I think, therefore, that I am justified in saying that if an expensive scheme of sewerage is necessary, it will be to replace sewers which are at present old and defective, or to relieve sewers which are at present inadequate to remove the rainfall, owing to the increase in the paved and roofed area of the Borough.

REPORT,
1896.

THE BOROUGH HOSPITAL FOR INFECTIOUS DISEASES.

Infectious
Diseases.

During the year 337 cases of Infectious Disease were admitted to the Hospital. The following table shows the admissions during the last ten years :—

TABLE Q.

	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896
Smallpox ...	...	...	10	6	...	..	2	36	8	1	...
Measles	...	6	2	1	...	5	1	...	4	1	...
Scarlet Fever	29	29	50	60	92	57	77	228	187	130	213
Diphtheria ...	...	...	...	...	1	...	3	1	...	1	1
Typhus Fever	21	7	42	45	2	27	48	31	8	1	...
Enteric & Continued Fever.	37	32	24	25	50	94	89	314	271	343	123
Totals...	87	74	128	137	145	183	220	610	478	477	337

In August the Council decided to discontinue the practice of making a charge for the treatment in the Hospital of residents in the Borough, except in those cases where special accommodation is required. This decision will undoubtedly enable the Hospital to more efficiently fulfil its purpose of preventing the spread of Infectious Disease by attracting a larger proportion of those affected.

The following table shows that 35 per cent. of the notified cases were treated in the Hospital, as against 30 per cent. in 1895 :—

TABLE R.

Showing the percentage of notified cases, which were treated in the Hospital during 1895 and 1896.

REPORT,
1896.

DISEASE.	1895.			1896.		
	Cases Notified.	Admitted to Hospital.		Cases Notified.	Admitted to Hospital.	
		Number.	Percentage of Total Cases Notified.		Number.	Percentage of Total Cases Notified.
Smallpox	1	1	100	1	...	...
Enteric Fever	839	294	35	260	103	39·6
Typhus Fever	3	...	...	...	...	...
Continued Fever.....	99	18	18·2	46	16	34·8
Scarlet Fever	470	125	26·6	605	212	35·2
Diphtheria	26	...	...	26	1	3·8
TOTAL	1438	438	30	938	333	35

During September and October the number of patients varied from 61 to 71, and, for several weeks, admission had to be refused owing to lack of accommodation. As this occurred at a time when there was no special epidemic, it became obvious that the Hospital was too small for the needs of the town, and it has since been decided to build another pavilion to accommodate 28 adults. Four cases of Enteric Fever and one of Scarlet Fever were sent in from the Rural District, all of which recovered.

Of the 213 cases of Scarlet Fever treated at the Hospital during the year five died, being 2·3 per cent. of the cases treated.

Comparison of
Hospital
and Home
Treatment.

REPORT,
1896.

Of the 391 cases of Scarlet Fever treated at home, 23 died, being 5·8 per cent. of the cases. Of the 123 cases of Enteric and Continued Fever treated at the Hospital during the year 19 died, being 15·4 per cent. of the cases treated ; while of the 174 cases treated at home 32 died, being 18·4 per cent. of the cases. It will thus be seen that the fatality of both diseases has been less for patients treated in the Hospital than for those treated at home.

Several of the cases of Enteric Fever which terminated fatally did so within a day or two of their admission. They were removed at a late stage of the illness, and never seemed to recover the effects of the removal ; and I would like to emphasise the importance of those cases of Enteric Fever, which are likely to go to the Hospital, being removed at as early a stage of the illness as possible.

The following figures show the death-rate in Hospital for the past six years :—

1891—	Patients admitted,	155,	of whom	13	died,	or	8·3	per cent.
1892—	„	„	194,	„	18	„	„	9·2
1893—	„	„	513,	„	48	„	„	9·3
1894—	„	„	420,	„	28	„	„	6·6
1895—	„	„	446,	„	49	„	„	11·2
1896—	„	„	337,	„	24	„	„	7·1

Union Fever
Hospital.

Fifteen cases of Infectious Disease were treated in the Union Fever Hospital during the year, namely, 13 cases of Enteric Fever with three deaths, and two cases of Scarlet Fever with no deaths.

CLEANSING DEPARTMENT.REPORT,
1896.—
Cleansing
Department.

Table S. shows a considerable increase in the work done in this department. There is a large increase in the number of inhabited houses, namely, 731, and an increase of $1\frac{3}{4}$ horses employed daily in cleansing ashpits.

In addition to there being more ashpits to cleanse, the cleansing has been done more frequently. Thus 162,908 ashpits were cleansed in 1896, as against 146,864 in 1895, an increase of 16,044. The result of this policy has been a falling off in the number of applications at the office. This is more clearly shown in Table T., in which the years are compared month by month. The number of applications is still large, but this is partly accounted for by insufficiency of accommodation for tenemented houses, and partly by the varying opinions of owners as to how often their ashpits should be emptied, and partly by the varying uses to which the ashpits are put, some occupiers being in the habit of using them for trade refuse, garden refuse, horse manure, &c. A considerable number of the applications, also, are made as a matter of routine, and do not indicate remissness on the part of the department.

The large number of different kinds of conveniences to be emptied, each kind requiring a system to itself, is of course a source of difficulty. In blocks such as New Hendon, for instance, where each ash-closet is attached to a single cottage, the cleansing of the ash-closets is carried out from one year's end to another without applications. Inability to get hopper accommodation for the refuse in rough weather sometimes creates a difficulty, especially as in stormy weather there is usually no demand for manure among the farmers.

Suffice it to say, that the greatest importance is attached to the regular cleansing of the ashpits. The open high hatched ashpits must not be emptied too frequently, on account of the inevitable fouling of the streets which occurs.

REPORT,
1896.
—
Cleansing
Department.

Return showing the number of Ash-pits Cleansed;
also Inhabited Houses, Populations, &c., for Seventeen
Years (1880-96).

TABLE S.

Year.	No. of Inhabited Houses.	Estimated Population. *	No. of Ash-pits Cleansed.	Quantity of Refuse Removed.	Average No. of Horses Employed Daily.	Applications received at Office to empty Ash-pits.
				Loads.		
1880	15,632	114,819	} No. Returns available.	45,747	19½	6,987
1881	15,956	116,753		56,321	23	12,554
1882	16,270	118,132	37,841	58,991	26	11,324
1883	16,728	119,527	47,607	66,188	30½	8,700
1884	17,208	120,940	74,869	73,192	30½	6,148
1885	17,444	122,369	82,689	73,662	30½	4,461
1886	17,189	123,814	87,921	68,867	30½	5,283
1887		125,276	120,296	67,970	30½	3,166
1888	17,790	126,757	101,012	68,652	30½	3,924
1889		128,254	88,544	68,018	30½	4,813
1890		129,769	100,987	70,472	30½	4,945
1891	18,590	131,302	119,156	72,519	30½	4,912
1892	19,098	132,839	132,575	74,949	30½	4,569
1893	19,476	134,515	149,717	71,235	30½	4,584
1894	19,540	136,101	148,884	72,115	31½	4,716
1895	19,953	137,705	* 146,864	* 73,883	34¼	* 4,719
1896	20,684	140,386	162,908	75,129	36	3,159

26,785 loads of Road Sweeping also were removed during the year, making a total of 101,914 loads dealt with by the Health Department.

The number of Barrels and Tanks of Water used for Street Watering purposes was 14,080.

During the twelve months 37,793 loads of Refuse were sent to sea by Hopper.

* By an error, these numbers were given in last year's Report as 147,664, 63,783, and 9,761 respectively.

TABLE T.

REPORT,
1896.

Showing the number of Ashpits reported full by the Inspectors, and applications made at the Office to have Ashpits emptied, each month during 1895 and 1896.

Month.	1895			1896		
	Reported by Inspector.	Applications at Office.	Total.	Reported by Inspector.	Applications at Office.	Total.
January	115	335	450	130	420	550
February	96	562	658	85	379	464
March	229	834	1063	85	279	364
April	159	724	883	96	242	338
May.....	136	428	564	56	330	386
June.....	95	263	358	68	310	378
July.....	54	231	285	51	278	329
August.....	85	237	322	89	236	325
September.....	61	438	499	46	186	232
October.....	73	225	298	31	119	150
November.....	86	209	295	54	157	211
December.....	68	233	301	111	223	334
Totals.....	1,257	4,719	5,976	902	3,159	4,061

During 1895, 748 applications were received to have ashpits cleansed, which, either owing to their being locked up, or containing horse manure, the Corporation men were not in the habit of cleansing regularly. During 1895, 363 ashpits were specially cleansed in order that they might be repaired or altered.

During 1896, 918 applications were received to have ashpits cleansed, which, either owing to their being locked up, or containing horse manure, the Corporation men were not in the habit of cleansing regularly. During 1896, 534 ashpits were specially cleansed in order that they might be repaired or altered.

REPORT,
1896.

—
Day
Collection of
House
Refuse.

At the middle of the year there were in the Borough about 1,800 houses supplied by water-closets only, about 850 furnished with water-closets and privies and ashpits, and about 350 with water-closets and ash-closets. There were 12,000 supplied by privies and ashpits, about 4,000 by ash-closets, about 800 by pan-closets, and about 200 houses had no convenience at all.

During the year the system of collecting the house refuse twice a week during the day-time, from houses supplied by water-closets only, has been begun. For the adoption of this system it is necessary that a dust-box should be substituted for the old-fashioned large ash-receptacle, and many house owners have made this alteration during the year. It is much to be desired that the remainder should follow suit, as the contents of these ash-receptacles, comprising, as they generally do, a quantity of decaying vegetable matter, are often as offensive as those of privy-middens, and occupants of water-closeted houses cannot be said to have got the full benefit of the water-carriage system until they have adopted this more wholesome method of getting rid of their domestic refuse, not to mention the gain of yard space and the freedom from the annoyance caused by the visits of the night-carts.

Collection of
Paper.

At the close of the year upwards of 600 of these dust-boxes were in use, and the number of them is rapidly increasing.

In the beginning of October the collection of paper, shop straw, &c., in sacks was begun, owing to the difficulty in getting the hoppers to work properly, when they contained much light refuse of this nature.

During the last twelve weeks of the year 2,931 sacks were collected and burned at the Deptford cone, or an average of 244 sacks per week.

UNHEALTHY HOUSES.

During the year 70 houses were reported under the Housing of the Working Classes Act as beng "unfit for human habitation." Of this number 33 were put into a inhabitable state of repair.

Of the remainder, 11 were closed by Magistrates' orders, 5 were voluntarily closed by the owner, and in 4 cases the work of repairing was in progress at the end of the year.

In 22 cases proceedings were pending or the notices had not expired, and in 3 cases the property changed hands.

In addition to these 70 houses, 9 closing orders were made in respect of properties for which notices were served in 1895.

There are a large number of houses quite unfit for human habitation, more particularly in the Sunderland Sub-district, that can only be dealt with satisfactorily as "areas" under Part I. of this Act.

Twenty-eight houses, that were without any conveniences whatever, have been provided with water-closets during the year. Most of these houses were also without yards, so that water-closets were the only kind of convenience possible.

There are still about 130 houses in the Sunderland Sub-district without conveniences. About two-thirds of these will be dealt with under the Public Health Act, 1875, or Part II. of the Housing of the Working Classes Act, but the remaining one-third will have to be dealt with under Part I. of the Housing of the Working Classes Act as belonging to "Unhealthy Areas."

It is of course important that these houses should be dealt with at as early a date as possible, as, apart from other reasons, the occupants of such houses have some excuse for depositing night-soil, &c., on the street grates and gutters, about which many complaints have been received during the year.

REPORT,
1896.

—
Housing of
the
Working
Classes Act.

Houses
without
Conveniences.

REPORT,
1896.
—
Overcrowding
in Tenements.

The Registrar-General, in the fourth volume of the Census Report for 1891, endeavours to compare the proportions of overcrowded tenements in the different districts throughout the country. For this purpose he assumes that all tenements which house more than two persons per room are overcrowded. He shows that, while in the urban districts, taken together, 12·31 per cent. of the population live more than two to a room, in Sunderland 32·85 per cent. of the population live more than two to a room, and that, judged by this standard, Sunderland shows the third highest percentage of overcrowding among the great towns. The large proportion of the population living more than two to a room is not, however, a feature peculiar to Sunderland in this district, but is found throughout the Counties of Durham and Northumberland, the figures for which are 34·03 and 38·69 per cent. respectively.

Drain
Testing.

The fact that 287 out of 527 drains tested during the year proved defective, shows how important it is for householders to make sure that their drains are in proper order by having them tested at frequent intervals.

Notices served
on Occupiers.

The table on page 56 shows the number of notices served on occupiers, and ought to go far towards satisfying owners that due attention is being paid to the tenants by the Sanitary inspectors with respect to the abatement of nuisances.

Water-closets.

The substitution of water-closets for privy-middens has only been insisted on where the situation of the privy-midden was such as to constitute it a nuisance. In most cases the privy-middens abolished were so situated that their contents, when emptied, had to be wheeled out through a house. I am glad to say that there are not many of this kind left.

In other cases the yards were so small that any form of dry closet was bound to be a nuisance.

The report of the district Inspectors, as to the way in which the recently fixed water-closets have been treated and kept, is a satisfactory one.

REPORT,
1896.

The registered common lodging houses, although many of them are very old buildings, have been managed, during the year, in a satisfactory manner, as regards cleanliness and the observance of the other bye-laws applicable to them.

Common
Lodging
Houses.

The regulations made by the Council in 1893, under the Order of 1885, are now being put in force. Attention to this part of the work of the Health Department is very important, owing to the ease with which milk becomes a carrier of infection, and to the number of epidemics that have been caused by it. To this danger must be added that before referred to—of Tuberculosis being conveyed by the milk of cows suffering from that disease.

Dairies,
Cowsheds, and
Milkshops.

Four cows were found, during the year, in byres in the district, suffering from advanced Tuberculosis. In each case the owner consented to the animal being slaughtered. In one case the animal was kept for some time in the hope of its recovery, and the milk was destroyed every day in the Inspector's presence.

Many of the byres are dark, and in some cases there is a dislike to interfere with cob-webs. It is said that cows, when kept in the dark, attend more strictly to the business of producing milk, and that cob-webs prevent the flies from irritating them. Possibly, too, the flies have a better chance of running into the cob-webs in the dark.

Only one dairy farmer in the Urban District uses a refrigerator, although this is now recognized as being an important aid towards the delivery of milk in a wholesome condition. The general use of refrigerators, more especially in the summer, would do much to check the prevalence of

REPORT,
1896.

milk-borne diarrhœa. There are a large number of milk-vendors in the district in a very small way of business, and, in the case of many of them, either the premises are not suitable for the keeping of milk, or other business is carried on which is incompatible with the sale of milk. A considerable number of these small milk vendors have not yet been registered.

Slaughter
Houses.

Sunderland is one of the few towns in which slaughtering in the retail shops is permitted, and, while this is the case, supervision of the premises used would be more satisfactory, if licenses to be renewed annually were granted to them. This is provided for in the Public Health Acts Amendment Act of 1890.

During the year several carcasses were condemned on account of Tuberculosis. In one of these cases the udder was very markedly affected, and I was told that this cow had been milked up to the last, and that its milk had been drunk in the market (not in Sunderland) the day before it was slaughtered.

Factories
and
Workshops.

No systematic inspection of the Factories and Workshops has been possible during the year, and the Tables given on pages 67 and 68 show that only a small proportion of these places are registered as yet.

Smoke
Nuisances.

No action was taken with regard to smoke nuisances during the year. At the Glasgow Congress of the British Institute of Public Health, to which Alderman Rickaby and I were sent as delegates, much attention was given to the subject of smoke prevention. Professor Ramsay took this subject for his opening address, and pointed out the injurious effect to a community resulting from the fouling of the atmosphere by smoke, deprivation of sunlight being the principal cause of this effect.

ANNUAL REPORT of the CHIEF SANITARY INSPECTOR.

HEALTH OFFICE,

TOWN HALL, SUNDERLAND,

JUNE, 1897.

TO THE CHAIRMAN AND MEMBERS OF THE
HEALTH COMMITTEE.

GENTLEMEN,

I have the honour to submit to you my Annual Report of the work done by your Inspectors during the year ending December 31st, 1896.

It will be seen that 66,506 inspections and 138 special reports have been made, 527 drains tested, 12,265 notices served, 640 letters and 467 circular letters have been written and delivered, drawing the attention of owners of property to the non-compliance with notices served.

78 houses have been dealt with under the Housing of the Working Classes Act, 1890, details of which are given in the Medical Officer's Report.

The following amongst other work has been done, viz. :—

Sanitary conveniences have been provided for 28 houses where none previously existed.

331 privy middens have been abolished, and 318 water-closets substituted, viz., 251 ordinary and 67 slop or waste water-closets.

74 ash-closets or covered privy middens have been erected, 268 ashpans provided, and 783 ashpits repaired.

147 water-closets, which were structurally defective, have been repaired, 109 have been provided with an efficient supply of water, and 40 soil pipe ventilators have been repaired, or new ones fixed.

19 waste pipes were found to be untrapped and connected direct to the drains.

93 new drains have been laid, and 333 drains, which were found untrapped or otherwise defective, have been repaired.

132 yards have been cemented, 44 paved with bricks, and 151 repaired.

The following tabulated statements will be found to explain much of the work of the department :—

Table showing the INSPECTIONS made during 1896.

Slaughter Houses	608
Bakehouses	130
Common Lodging Houses	764
Cowsheds and Milkshops	900
Fish, Fruit, and Butchers' Shops ..	1,960
Tripe Shops	89
Dwelling Houses	59,665
Factories and Workshops ..	59
Marine Stores	69
Other Inspections.....	2,262
Total Inspections	66,506

The following Table shows the cases of SICKNESS in Houses visited by the Sanitary Inspectors during the year 1896.

DISEASES.	No. of Cases.
Smallpox	1
Typhus Fever	...
Enteric Fever	260
Simple Continued Fever	46
Scarlet Fever	605
Measles	138
Diphtheria.....	26
Whooping Cough.....	72
Diarrhoea	118
Puerperal Fever	9
Total	1,275

SUMMARY OF NOTICES for the Abatement of Nuisances
served during 1896.

Nature of Notice.	Preliminary.		Statutory.		Totals
	Owner.	Occupier	Owner.	Occupier	
To Cleanse Premises after Infectious Disease	4	702	...	...	706
To Cleanse Dwelling Houses, Yards, &c....	10	531	...	66	607
To Abate Nuisances respecting Foul and Defective Drains	606	117	162	7	892
To Abate Nuisances respecting Ashpits and Privies	993	377	214	55	1639
To Abate Nuisances respecting Water-closets.....	145	187	50	72	454
Insufficient W.C. Accommodation or Water Supply to W.C.....	107	...	140	...	247
To Repair Yards.....	436	...	172	...	608
To Repair Dilapidations in Houses	427	...	113	...	540
To Abate Overcrowding	6	12	2	7	27
To Repair Spouts and Downcomers	827	...	187	...	1014
To Repair Fittings to Ashpits, Panclosets, &c.	283	...	22	...	305
To Cleanse and Limewash Bake Houses, Workshops, and Factories	2	1	...	1	4
To Provide Water Supply to Dwelling Houses	71	...	30	...	101
To Abate other Nuisances	241	405	56	7	709
To Cleanse Premises by Lime Washing ...	...	4412	...	...	4412
Totals.....	4158	6744	1148	215	12265

The above table does not include minor nuisances, such as dirty yards and passages, choked drains, &c., which were abated at the time in answer to verbal notices.

DRAIN TESTING.

104 drains were tested on application.....	57 defective, 47 good.
242 " " suspicion of a nuisance...	147 " 95 "
181 " " after infectious diseases	83 " 98 "
<u>527</u>	<u>287</u> <u>240</u>

In connection with the above 138 special reports were made by the Inspectors. 527 drains were tested, and 287, or 54 per cent., proved to be defective.

The tests applied were the chemical, smoke, and water tests, the latter being used in every case where practicable.

The number of applications made at the office to have drains tested will show that the public place every confidence in the Inspectors with regard to these matters.

I have thought it advisable to add the following Table, giving details of notices served on *occupiers* :—

Table showing the Number of Notices served on Occupiers.

Districts.	Privies Foul.	Water in Ashpits.	W.C.'s to Cleanse.	Drains Choked.	Houses in dirty condition.	Dirty Yards.	Overcrowding in houses.	Fowls and Animals so kept as to be a Nuisance.	Accumulations injurious to health.	To Disinfect after Infectious Diseases.	To Limewash.	Totals.
1	45	108	161	54	68	25	1	9	31	106	1227	1835
2	90	67	74	29	76	58	2	6	27	117	478	1024
3	6	64	46	14	19	44	4	15	12	111	125	460
4	13	26	21	37	77	46	9	8	27	87	946	1297
5	..	..	15	25	..	35	10	..	5	161	1174	1425
6	52	38	14	51	8	141	2	9	21	120	462	918
	206	303	331	210	248	349	28	47	123	702	4412	6959

From which it will be seen that no fewer than 6959 notices were served on occupiers, against 5306 on owners. 61 tenants were proceeded against and fined sums amounting to £5 5s. 0d.

The magisterial proceedings against occupiers were as follows :—

(1) Foul and dirty condition of rooms, staircases, &c., 11 cases.

One was fined 10s., one 20s., four 1s. 6d., one abatement order was granted, two cases were withdrawn on abating nuisance, and two dismissed. The cases dismissed were for depositing ashes in attics which defendants alleged they did not occupy.

(2) Water in ashpits, 4 cases. In each case an abatement order was made, and a fine of 1s. was imposed.

(3) Dirty yard, 1 case. Fined 5s.

(4) Foul and dirty condition of sanitary conveniences, 37 cases.

15 recurring orders were made.

20 persons were fined (five, 5s. ; ten, 2s. 6d. ; and five, 2s.)

2 cases were withdrawn.

(5) Foul accumulations (outhouses), 7 cases. Recurring orders made in each case.

(6) Fowls kept in such a state as to be a nuisance, 1 case. Withdrawn, nuisance abated.

DISINFECTING WORK during the year 1896.

Return of Houses, Beds, Bedding, Wearing Apparel, &c., Disinfected after Cases of Infectious Diseases.

Articles.	Disinfected.	Burned.	Houses.	No.
Beds	469	20	Houses Fumigated and Disinfected.....	944
Mattresses	57	18		
Blankets	354	...		
Pillows	937	11		
Quilts.....	433	...		
Bolsters	404	2		
Sheets	345	...		
Carpets	18	...		
Shawls	134	...		
Sundries	209	19		
Totals	3,360	70	Total.....	944

One bed and one mattress were replaced by the Authority.

TABLE

Showing the cases in which it was found necessary to adopt MAGISTERIAL PROCEEDINGS.

Particulars of Complaints.	No.	How disposed of.	Penalties imposed.		
			£	s.	d.
Privies and Ash-pits in such a state as to be a nuisance.	11	3 abatement orders made and 8 withdrawn on abatement of nuisances and payment of costs.	1	18	0
Water-closets so defective as to be a nuisance.	2	2 abatement orders made.			
Drains so defective as to be a nuisance.	9	3 abatement orders made and 6 withdrawn on abatement of nuisances and payment of costs.	1	6	0
Yards not paved, or pavement so defective as to be a nuisance.	11	4 abatement orders made and 7 withdrawn on abatement of nuisances and payment of costs.	1	8	0
Dilapidations in houses, including Roofs and Back Eaves Spouts, so defective as to cause the premises to be damp and injurious to the health of the inmates.	6	3 abatement orders made and 3 withdrawn on abatement of nuisances and payment of costs.		17	0
Front Eaves Spouts so defective as to allow the water to fall upon the persons passing along the street.	7	3 withdrawn on abatement of nuisances and payment of costs, and 4 were fined 2s. 6d. each.	1	6	0
Stables in such a condition as to be a nuisance.	2	1 abatement order made and 1 withdrawn on abatement of nuisance and payment of costs.		4	0
Proceedings against owners of properties for disobeying Magistrates' orders.	3	In one case the work was done within the extra time allowed by the Magistrates. In the other cases the properties were sold and proceedings lapsed.		9	6
Proceedings against tenants in respect of foul premises, conveniences, &c.	61	For detailed particulars see page (56.)	5	5	0
Houses unfit for human habitation. (See Medical Officer of Health's Report, page 41.)	23	20 closing orders were made. In 3 cases the summonses were withdrawn on the work being carried out and payment of costs.		12	0
Proceedings against the occupier of house for using the same as a common lodging-house, when not registered as such.	1	Fined 10s. and 4s. costs. (See Common Lodging-houses.)		14	0
Offences against Common Lodging-house Regulations.	4	For particulars see Common Lodging-houses.	2	5	0
Total	140		£16	4	0

Complaints received by the Inspectors, or at the Health Office, and attended to by them during the year 1896.

NATURE OF COMPLAINT.	Number of District.						Totals.
	1	2	3	4	5	6	
Smoke Nuisances.....	1	2	3	3	2	1	12
Overcrowding	2	2	4	3	3	...	14
Damp and Dilapidated Houses	5	3	5	4	1	2	20
Defective Roofs and Spouts	11	9	21	3	4	1	49
Dirty Rooms, Yards, &c.....	8	5	12	5	2	2	34
Defective Yard Pavements.....	1	3	1	...	...	1	6
Foul and Defective Water Closets.....	18	2	10	6	...	...	36
Defective Privy Middens	15	25	28	13	5	...	91
Defective Drains	17	23	19	12	14	9	94
Applications to have Drains Tested	6	1	61	5	...	8	81
Animals kept in such a state as to be a Nuisance	2	3	7	1	...	3	16
Offensive Smells from Sewer Ventilators and Street Grates	5	5	10	6	3	4	33
Reported by Inspector of Factories.	...	...	2	2	1	...	5
	...	...	1	...	...	...	1
	...	...	3	...	...	...	3
Water in Ashpits	...	...	2	...	...	...	2
	3	15	12	5	20	...	56
	...	...	...	...	...	1	4
Nuisances from Cesspools	...	...	...	...	...	4	4
Accumulations of Stable Manure	1	...	16	2	...	6	25
House without Drain	...	...	...	1	...	1	2
Houses without Water.....	3	...	...	...	...	...	3
Other Nuisances ..	21	14	42	19	16	13	125
	119	112	259	90	71	61	712

DAIRIES AND MILK SHOPS.

District.	No. on Register 1896.	Notices Served.	CASES OF SICKNESS.				No. Removed to Hospital.	Treated at Home.
			Small-pox.	Scarlet Fever.	Typhoid Fever.	Diphtheria.		
No. 1 ...	43	12	...	...	...	...	...	...
„ 2 ...	48	...	...	...	...	...	...	...
„ 3 ...	51	1	...	1	...	...	1	...
„ 4 ...	56	11	...	1	...	...	1	...
„ 5 ...	44	7	...	1	1*	...	1	1†
„ 6 ...	48	6	...	...	...	...	...	...
Total...	290	37	...	3	1	...	3	1

* The only case of infectious disease which was not removed to Hospital. was discontinued until the patient recovered.

† The sale of milk

The 37 Notices served upon Milk Vendors were to prevent volatile liquids, such as paraffin oil, vinegar, etc., being stored and sold in conjunction with milk, and they have all been complied with.

The following 7 cases, taken from the above 37, will clearly demonstrate the necessity for constant and unremitting supervision of Milk Shops :—

A—The bedroom was separated from shop by thin wooden partition. Herrings sold.

B—Shop used as bedroom. Paraffin oil sold.

C—Paraffin oil and vinegar sold.

D— do. do.

E—Paraffin oil, herrings, and vinegar sold.

F—Paraffin oil and herrings sold.

G—Shop used as bedroom. Paraffin oil sold.

Upon receipt of notices the above 7 Milk Vendors discontinued the sale of milk.

NUMBER OF COW SHEDS IN THE BOROUGH.

DISTRICT.	No. of Byres.	Accommodation.
No. 1 District	1	4
No. 2 „	5	28
No. 3 „	21	141
No. 4 „	6	31
No. 5 „	12	52
No. 6 „	9	49
Total ...	54	305

NOTICES SERVED ON OCCUPIERS OF COW SHEDS
TO ABATE NUISANCES.

NUISANCES.	Notices served.	Notices Complied with.	Notices not complied with.
Overcrowding	25	18	7
Drains Defective and Untrapped	7	7	—
Yard and Byre Pavement Defective	6	5	1
Insufficient Light and Ventilation	4	4	—
Filthy Byre	1	1	—
Filthy Manure Pit	1	1	—
Cesspool Overflowing	1	1	—
Accumulation of Manure	1	1	—
Total ...	46	38	8

The 25 notices served on occupiers for permitting overcrowding in their byres were served in December, when 18 of them took immediate steps to abate the overcrowding complained of. The remaining seven cases will be dealt with in due course.

BAKEHOUSES.

There are 24 bakehouses in the Borough, but, with the exception of three, they are on a very small scale. Several of these bakehouses are situated in basements, which are known as cellar bakehouses, chiefly used in connection with confectioner's shops, and are, generally, in a very clean and satisfactory condition. The large machine bakehouses are well managed, clean, and in suitable buildings. There have been 130 visits paid to bakehouses during the year, and four notices had to be served for cleansing and limewashing.

REGISTERED COMMON LODGING HOUSES.

INSPECTIONS.

Day Inspections	...	...	...	...	542
Night Inspections	...	...	...	...	111
Average number of Lodgers per Inspection	...				495
Highest number of Lodgers	...	...	...		508
Lowest	„	„	...	...	474

There have been 20 single beds provided during the year, in lieu of 11 double beds.

NOTICES.

Notices have been served for the following reasons:—

Limewashing of houses, and washing of bed-				
clothes required	...	...	...	35
Structural repairs to houses required...	...			2
Defective drains, water-closets, &c	...	...		6
Additional w.c.'s required	...	...	...	4
Infectious diseases	...	...	...	—

APPLICATIONS FOR LICENSE.

4 and 5, Bedford Street—application granted	1
36, Spring Garden Lane—application refused	1
Total	2

APPLICATION FOR TRANSFER OF LICENSE.

4, Cumberland Street—application granted	1
3, Queen Street East—application refused	1
Total	2
Outram Street—License cancelled at request of holder	1

PROCEEDINGS AGAINST KEEPERS OF COMMON LODGING HOUSES.

There were four cases tried before the Magistrates, against the keepers of Common Lodging Houses, for breaches of the regulations. Three of these were against one person, and, being his third conviction, his license was cancelled, in addition to fines of 10s. and costs on each count. In the other case the keeper was fined 5s. and costs.

There was also a charge against the occupier of No. 3, Queen Street East, for using the house as a Common Lodging House, the same not being registered. This person was fined 10s. and costs.

REGISTERED COMMON LODGING HOUSES.

LOCALITY OF HOUSE.	No. of Rooms.	No. of Lodgers.	No. of Single Beds.	No. of Double Beds.	No. of Beds under the Registered Accommodation.
5, Cumberland Street	12	43	34	7	2
3 and 4, Charles Street	9	28	28	—	—
7, Sunderland Street	9	18	14	3	3
33, Number's Garth.....	4	14	5	4	1
11, Number's Garth.....	4	16	14	1	1
10, Number's Garth.....	6	15	2	5	3
42, Covent Garden Street	5	15	5	5	—
2, Spring Garden Lane	7	25	21	2	—
44, Spring Garden Lane.....	6	19	13	3	—
41, 42, and 43, Spring Garden Lane	11	41	19	10	2
38, Spring Garden Lane.....	6	21	3	9	—
2, Lombard Street	5	18	3	5	5
35, Lombard Street.....	8	17	8	4	1
5 and 6, Queen Street East	7	48	11	18	1
2, Arras's Lane.....	6	43	19	12	—
10, Church Street.....	5	24	7	12	7
3, Mill Street	8	24	2	10	2
53, Mill Street.....	2	8	2	2	2
13, Havelock Street	6	20	6	7	—
36, Outram Street	7	18	2	6	4
39, Outram Street	5	17	1	8	—
2, Queen Street	6	39	13	13	—
123½, Low Street.....	4	15	15	—	—
6, Maud's Lane	9	34	10	12	—
1, Horn's Lane.....	7	34	34	—	—
4 and 5, Bedford Street	11	68	57	4	3
Total	175	682	348	162	37

SLAUGHTER HOUSES.

In the Borough there are 12 slaughter houses used exclusively for this purpose.

During the year 608 inspections of these premises have been made, and, with few exceptions, were found to be in a fairly clean condition. Some of the buildings are very badly adapted for slaughter houses, being structurally bad, and poorly equipped for the business.

In addition to this, some are situated in populous districts, where, owing to the nature of the business, they are objectionable and undesirable.

SEIZURES.

During the past 12 months, 33 seizures of unsound meat were made, weighing 547 stones.

Sixteen animals' carcasses were seriously affected by Tuberculosis, and four pigs with Swine Fever.

FOOD MATERIAL CONDEMNED.

MEAT.

The amount of meat seized this year is about the same as during 1895.

MEAT.		FRUIT.	
	stones.		lbs.
Beef	449 $\frac{1}{2}$	Dates.....	2240
Veal	9	Lemons	3 $\frac{1}{2}$
Pork	35 $\frac{1}{2}$	Apples	28
Mutton	2 $\frac{1}{4}$	Oranges.....	28
Lamb	$\frac{1}{2}$	Cherries	238
	—	Black Currants.....	107
	546 $\frac{3}{4}$	Red Currants	21
		Strawberries.....	2 $\frac{1}{2}$
		Gooseberries	12 $\frac{1}{2}$
		Assorted Fruit	20
			—
			2700 $\frac{1}{2}$
GAME.		VEGETABLES.	
	lbs.		lbs.
Rabbits.....	12	Potatoes	706
	—	Tomatoes	374
	12		—
			1080
FISH.		MILK.	
	lbs.		lbs.
Kippers.....	280	Condensed, in tins	416
Shrimps.....	1 $\frac{1}{2}$	Milk from cow suffering	
Assorted Fish	168	from Tuberculosis ...	183 pts.
	—		
	449 $\frac{1}{2}$		
EGGS.			
1,440 in number.			

FRUIT.—The amount of fruit seized was considerably less this year than during 1895. This diminution is not due to any lack of activity on the part of the Inspectors. The explanation of the fact is probably due to the very cool summer, and to a very much better quality of fruit being on the market. During very hot weather fruit decomposes very rapidly, consequently more of it becomes unsound.

OFFENSIVE TRADES.

The Offensive Trades carried on in the town are as follows :—

Slaughter Houses	12
Gut Scraping Houses	1
Tallow Melting Works	1
Marine Store Dealers.....	17
Fish Curing Houses	4
Chemical Works.....	2
Tripe Preparers	13
Skin Warehouses	3
Oil and Grease Works	2
Paint Works	2
TOTAL.....	57

There are 57 of these places in the Borough, all of which have been visited regularly during the year. It was found necessary to serve Notices for the abatement of various nuisances and for cleansing, which were at once complied with, except in one case hereafter mentioned. They are generally carried on satisfactorily, and very few complaints are received about them.

PROCEEDINGS.

A Summons was taken out against a Tripe Preparer for having his premises in a filthy condition, and he was fined 5/- and costs.

FACTORIES AND WORKSHOPS.

Table showing number of Sanitary Conveniences, Drains, &c., provided for Factories or Workshops during 1896 :—

New water-closets erected	7
New trough-closets erected	2
New drains put in	5
New soil pipe erected	1
Ash-closet erected	1
Privies abolished	2
Ash-pits abolished	2

59 inspections were made, and it was found necessary to take proceedings against the occupier of a workshop for allowing the same to be in a dirty condition. The summons was withdrawn on his abating the nuisance and paying the costs.

Only a small proportion of the Factories and Workshops in the Borough are registered. The subjoined Table, taken from the Directory, shows that they number about 1,300.

The nuisances dealt with during the year have been discovered chiefly as the result of inspections following the notification by H.M. Inspector of Factories.

Table showing the APPROXIMATE NUMBER OF FACTORIES
in the Borough:—

FACTORIES.	No. of Factories	FACTORIES.	No. of Factories
Anchor Manufacturers...	4	Forgemen	6
Biscuit Manufacturers...	2	Glass Manufacturers ...	8
Book Binders	5	Iron Founders	14
Brass Founders and Finishers	10	Millers	8
Brewers	10	Mineral Water Manu- facturers	6
Brick and Tile Manufac- turers	5	Newspapers	2
Cabinet Makers.....	5	Paint Manufacturers ...	2
Cement Manufacturers...	6	Paper Manufacturers ...	2
Chemical Manufacturers	2	Printers.....	27
Coach Builders	4	Rope Manufacturers.....	8
Dyers	4	Sail Makers	1
Earthenware Manufac- turers	4	Saw Mills	8
Engineers	17	Shipbuilders	13
		Stocking Knitters.....	3
		Tool Manufacturers	5

Total number of Factories:—191.

Table showing the APPROXIMATE NUMBER OF WORKSHOPS
in the Borough :—

WORKSHOPS.	No. of Work- shops.	WORKSHOPS.	No. of Work- shops.
Ale and Porter Mer- chants	7	Lathrender	1
Anti-Fouling Compo- sition Manufacturers	3	Marble Masons and Sculptors.....	8
Bakers	24	Mattress Makers	3
Basket Makers.....	3	Marine Stores	17
Bicycle Manufacturers and Repairers.....	11	Metal Brokers	6
Block and Mast Makers	4	Opticians and Mathe- matical Instrument Makers	13
Boat Builders	5	Painters.. ...	51
Boiler Composition Manufacturers	3	Paper Bag Manufac- turers	2
Boot and Shoe Repairers	172	Pawnbrokers.....	60
Brush Manufacturers ...	2	Picture Frame Makers...	17
Canvas Manufacturers...	5	Plumbers	40
Cartwrights	8	Provision Merchants ...	11
Carvers and Gilders.....	14	Saddle and Harness Manufacturers	10
Chair Makers	2	Ship Chandlers.....	20
Confectioners	40	Slaters	6
Coopers	6	Slipper Maker	1
Cork Cutters.....	2	Smiths	10
Drapers.....	42	Tailors	91
Dressmakers	93	Tin and Iron Plate Workers	14
Drysalters.....	5	Tripe Dressers	13
Engravers	7	Umbrella Makers.....	5
Fish Curers	4	Upholsterers.....	18
French Polishers	5	Venetian Blind Makers	2
Grease Manufacturers ...	2	Wire Workers	2
Hairdressers	97	Wood Carvers	6
Horse Shoers	14		
Joiners	71		
Laundresses	16		

Total number of Workshops :—1,094.

I am, Gentlemen,

Your obedient Servant,

JOHN PENNOCK.

APPENDIX.

VITAL AND SANITARY STATISTICS,

1896,

TOGETHER WITH

ABSTRACTS FOR NINETEEN YEARS, 1877-95.

METEOROLOGICAL OBSERVATIONS.

TABLE I.

Showing the Population, Inhabited Houses, Marriages, Births, and Deaths for the year **1896**, and 19 years preceding.

GROSS NUMBERS.

The Year.	Estimated Population. *	No. of Inhabited Houses.	Marriages.	Registered Births.	Registered Deaths.	Deaths in Public Institutions.
1896†	140,386	20,684	1,497	4,873	2,784	322
1877	109,201	14,675	1,108	4,499	2,487	205
1878	111,049	14,994	1,125	4,641	2,861	207
1879†	112,918	15,313	966	4,486	2,507	210
1880	114,819	15,632	1,133	4,372	2,901	227
1881	116,753	15,956	1,370	4,587	2,436	218
1882	118,132	16,270	1,547	4,889	3,146	202
1883	119,527	16,728	1,522	5,054	2,961	206
1884†	120,940	17,208	1,230	5,338	2,888	247
1885	122,369	17,444	1,168	4,725	2,977	236
1886	123,814	17,189	1,082	4,621	2,479	241
1887	125,276	17,810	1,186	4,474	2,549	229
1888	126,757	17,790	1,343	4,559	2,375	214
1889	128,254	18,607	1,447	4,818	3,063	234
1890†	129,769	18,590	1,442	4,932	3,140	292
1891	131,302	18,590	1,318	4,945	3,273	285
1892	132,839	19,098	1,221	4,909	2,774	257
1893	134,515	19,476	1,203	4,770	3,023	310
1894	136,101	19,854	1,266	4,760	2,815	272
1895	137,705	19,953	1,361	4,819	2,990	356
Average of 19 Years, 1877-95. }	123,791	17,430	1,265	4,747	2,824	245

NOTES.

- 1.—Population of Census, 1891 = 131,686.
- 2.—Average Number of Persons in each House at Census, 1891 = 7·04.
- 3.—Area of Borough in Acres—3,396, exclusive of tidal water and foreshore, but including the docks.
- 4.—Average Number of Persons living on each acre at Census, 1891 = 38·77.

* For Statistical purposes the Registrar General estimates the Population to the middle of the year on the basis of rate of increase ruling between the two preceding census periods. The estimate of population may be checked to a certain extent by the known number of inhabited houses, and by the average number of inmates per house, as ascertained at the preceding census.

† In these years there were 53 weeks, therefore, in calculating annual rates from the figures given for the population, care should be taken to add a fifty-second part to them to get the true ratios; hence the respective populations for these years would be 115,089, 123,265, 132,264, and 143,086.

TABLE II.

Showing the ANNUAL BIRTH and DEATH-RATES, DEATH-RATES OF CHILDREN, proportion of DEATHS IN PUBLIC INSTITUTIONS in 1000 Deaths for the year 1896 and 13 years preceding.

In Year. 1	Birth Rates per 1000 of the Population. 2	Death Rates per 1000 of the Population. 3	Deaths of Children under 1 Year per 1000 of Registered Births. 4	Deaths of Children under 1 Year per 1000 of Total Deaths. 5	Deaths of Children under 5 Years per 1000 of Total Deaths. 6	Deaths in Public Institutions per 1000 of Total Deaths. 7
1896 [†]	34·04	19·45	161	282	463	115
1883	42·25	24·73	137	235	383	103
1884 [†]	43·30	23·43	167	308	481	187
1885	38·62	24·32	156	245	505	82
1886	37·37	20·02	152	248	449	97
1887	35·60	20·34	152	267	458	89
1888	35·95	18·73	135	260	399	90
1889	37·56	23·88	182	286	473	76
1890 [†]	37·29	23·74	175	275	420	92
1891	37·65	24·93	178	269	449	95
1892	36·95	20·88	159	281	469	92
1893	35·46	22·47	189	299	437	102
1894	34·97	20·68	168	285	469	96
1895	32·08	21·71	191	312	452	119
Average of 13 Years, 1883-1895	37·31	22·29	165	275	449	101

[†] There were 53 weeks in these years, and the rates have therefore been corrected for the extra week.

TABLE III.

SHOWING DEATHS FROM ALL CAUSES DURING THE YEAR 1896.

CAUSES OF DEATH.	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards	Totals
I.—Specific, Febrile, &c.	161	194	33	21	14	7	8	4	3	....	1	....	444
II.—Parasitic Diseases .. ..	....	....	....	....	....	....	....	....	....	....	....	....	....
III.—Dietic Diseases .. ..	....	....	....	1	....	1	1	....	....	....	....	....	....
IV.—Constitutional Diseases	31	52	36	56	61	59	63	55	23	9	....	....	444
V.—Developmental Diseases	110	....	....	....	....	....	....	10	47	66	19	....	257
VI.—Local Diseases	283	239	66	49	66	107	150	158	146	69	5	....	1333
VII.—Deaths from Violence.. ..	5	13	6	6	6	7	10	8	4	1	....	....	60
VIII.—Deaths from Ill-defined Causes ..	196	7	5	2	6	6	5	4	2	1	....	....	234
TOTALS	786	505	146	135	153	187	237	239	225	146	25	....	2784
I.—Specific or Febrile Causes.													
1.—Miasmatic Diseases.													
Smallpox { Vaccinated .. ..	....	....	....	....	....	....	....	....	....	....	....	....	....
Unvaccinated .. ..	....	....	....	....	....	....	....	....	....	....	....	....	....
Unknown .. ..	....	....	....	....	....	....	....	....	....	....	....	....	....
Measles	18	114	6	....	....	....	....	....	....	....	....	....	138
Scarlet Fever (Scarlatina)	1	18	8	1	....	....	....	....	....	....	....	....	28
Diphtheria	2	3	1	....	....	....	....	....	....	....	....	....	6
Whooping Cough	36	33	3	....	....	....	....	....	....	....	....	....	72
Typhus Fever .. ..	....	....	....	....	....	....	....	....	....	....	....	....	....
Enteric or Typhoid Fever .. ..	....	6	12	17	12	4	3	....	....	....	....	....	54
Simple Continued and Ill-defined Fever ..	....	....	....	....	....	....	....	....	....	....	....	....	....
Other Miasmatic Diseases, Influenza ..	....	....	....	....	....	1	2	2	1	....	....	....	6
2.—Diarrhoeal Diseases.													
Simple Cholera .. ..	....	....	....	....	....	....	....	....	....	....	....	....	....
Diarrhoea, Dysentery	91	17	2	1	1	1	1	1	2	....	1	....	118
3.—Malarial Diseases.													
Remittent Fever .. ..	....	....	....	....	....	1	....	....	....	....	....	....	1
Ague .. ..	....	....	....	....	....	....	....	....	....	....	....	....	....
4.—Zoogenous Diseases.													
Cowpox, Effects of Vaccination .. ..	....	....	....	....	....	....	....	....	....	....	....	....	....
Hydrophobia .. ..	....	....	....	....	....	....	....	....	....	....	....	....	....
Glanders .. ..	....	....	....	....	....	....	....	....	....	....	....	....	....
Splenic Fever .. ..	....	....	....	....	....	....	....	....	....	....	....	....	....
5.—Venereal Diseases.													
Syphilis	13	3	1	....	....	....	....	....	....	....	....	....	17
Gonorrhoea, Stricture of Urethra ..	....	....	....	....	....	....	....	....	....	....	....	....	....
6.—Septic Diseases.													
Erysipelas .. ..	....	....	....	....	....	....	1	1	....	....	....	....	2
Pyæmia, Septicæmia .. ..	....	....	....	1	1	....	1	....	....	....	....	....	3
Puerperal Fever .. ..	....	....	....	1	....	....	....	....	....	....	....	....	1
II.—Parasitic Diseases.													
Thrush .. ..	....	....	....	....	....	....	....	....	....	....	....	....	....
Hydatids .. ..	....	....	....	....	....	....	....	....	....	....	....	....	....
Other Animal Parasitical Diseases ..	....	....	....	....	....	....	....	....	....	....	....	....	....
III.—Dietic Diseases.													
Starvation, want of Breast Milk ..	....	....	....	....	....	....	....	....	....	....	....	....	....
Scurvy .. ..	....	....	....	....	....	....	....	....	....	....	....	....	....
Chronic Alcoholism, Delirium Tremens ..	....	....	....	1	....	1	1	....	....	....	....	....	3

TABLE III.—CONTINUED.

CAUSES OF DEATH.	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards	Totals
V.—Constitutional Diseases.													
Rheumatic Fever and Rheumatism of the Heart			2					1					3
Rheumatism		1	5	2		1	2	3					14
Scout													
Rickets	4	5											9
Cancer, Malignant Disease		1		1	2	8	27	34	18	7			98
Scabs Mesenterica	10	19	1		1								31
Tubercular Meningitis, Hydrocephalus	6	11	8	3									28
Phthisis	1	5	14	45	54	44	27	13	3	1			207
Other Tubercular and Scrofulous Diseases	9	10	5	3	1	4	4	1					37
Purpura, Hæmorrhagic Diathesis													
Anæmia, Chlorosis, Leucocythæmia	1		1	2		1		1					6
Glycosuria, Diabetes Mellitus					1	1	2	2	2	1			9
Other Constitutional Diseases					2		1						3
V.—Developmental Diseases.													
Premature Birth	99												99
Atelectasis	9												9
Congenital Malformations	2												2
Old Age								10	47	66	19		142
VI.—Local Diseases.													
<i>1.—Diseases of Nervous System.</i>													
Inflammation of Brain or Membranes	25	26	18	2			2						73
Apoplexy	1		1	1	3	3	14	36	27	18			104
Softening of Brain					1		2		3	2	1		9
Hemiplegia					2		5	9	7	1			26
Brain Paralysis						1							1
Insanity, General Paralysis of the Insane					1								1
Epilepsy			1			2		2					5
Convulsions	67	21	1	1									90
Laryngismus Stridulus		2											2
Paralysis Agitans											1		1
Paraplegia						2		5	10	2			19
Diseases of Spinal Cord	6	1	1	1		2		1	2				14
Other Diseases of Nervous System					1	1	3	2					7
<i>2.—Diseases of Organs of Special Sense.</i>													
Ear, Diseases of													
Eyes, „													
Nose, „													
<i>3.—Diseases of Circulatory System.</i>													
Endocarditis				2									2
Valvular Diseases of Heart				1	1	3	7	1	3	1			17
Pericarditis													
Other Diseases of Heart	2		7	7	14	24	27	36	23	16	1		157
Aneurism					1	3	3						7
Embolism, Thrombosis					2	1		1					4
Other Diseases of Blood Vessels	1				1	3	1	1	1				8
<i>4.—Diseases of Respiratory System.</i>													
Croup	1	10	2										13
Laryngitis		6	2		1	1	1						11
Bronchitis	69	51	5	3	3	9	28	22	30	15	2		237
Pneumonia	17	34	8	7	8	13	22	12	12	4			137
Broncho-Pneumonia	26	47	6			2	1	4	1				87
Pleuro-Pneumonia			2	1		1	1	1					6
Pleurisy		1		1	2			1	3				8
Emphysema				1	2	1		1					5
Asthma		1				3	1	3	2				10
Other Diseases of Respiratory System		1		1	1	2							5
<i>5.—Diseases of Digestive System</i>													
Dentition	17	10											27
Sore Throat, Quinsey		1											1
Diseases of Stomach	8	2	2	4		2	3	2	2	3			28
Enteritis	32	5	2	1			2						42

TABLE III.—CONTINUED.

CAUSES OF DEATH.	0 to 1	1 to 5	5 to 15	15 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 to 95	95 and upwards	Totals
VI.—Local Diseases—contd.													
Peritonitis	5	6	3	6	5	1	1	1	2	1			31
Obstructive Diseases of Intestines ..	1	3			3	2	2	1		1			13
Ascites							1						1
Cirrhosis of Liver						4	6	3	2				15
Jaundice and other Diseases of Liver ..	3	1	1	1	3	2	3	2	4				20
Other Diseases of Digestive System ..		1											1
<i>6.—Diseases of Lymphatic System.</i>													
Lymphatics and of Spleen													
<i>7.—Diseases of Glandlike Organs of Uncertain Use.</i>													
Bronchocele					1		1						2
Addison's Disease													
<i>8.—Diseases of Urinary System.</i>													
Nephritis		6	4		1	2	3	3	2				21
Bright's Disease, Albuminuria		1		2	1	6	6	3	8	4			32
Disease of Bladder													
" Prostate													
Other Diseases of the Urinary System ..						3		4	1				8
<i>9.—Diseases of Re-productive System.</i>													
<i>A—Of Organs of Reproduction.</i>													
Male Organs of Generation													
Female Organs							1						1
<i>B—Of Parturition.</i>													
Abortion, Miscarriage						1							1
Puerperal Convulsions				2	2								4
Placenta Prævia, Flooding					1	1							2
Other Accidents of Child Birth				1	3	3							7
<i>10.—Diseases of Bones and Joints.</i>													
Caries, Necrosis	1	1		1		1	1						5
Arthritis, Ostitis, Periostitis				1			1						2
Other Diseases of Bones and Joints ..				1						1			2
<i>11.—Diseases of Integumentary System.</i>													
Carbuncle		1					1		1				3
Phlegmon													
Cellulitis	1				1			1					3
Other Diseases of Integumentary System ..													
VII.—Violence.													
<i>1.—Accident or Negligence.</i>													
Fracture and Contusion			1	3	2	3	6	1	1	1			18
Gunshot Wound													
Cut, Stab													
Burn and Scald		10	4		1		1		1				17
Poison						1							1
Drowning		1		3	1	2	2	1					10
Suffocation	5	1				1							7
Otherwise		1	1		1			3	1				7
<i>2.—Homicide</i> { Manslaughter									1				1
{ Murder													
<i>3.—Suicide</i>					1		1	3					5
VIII.—Deaths from Ill-defined Causes.													
Dropsy		1											1
Debility, Marasmus, Atrophy, & Inanition	193	6				1	2		1				200
Mortification							1						1
Tumour			2	1	1	2	1			1			8
Abscess	1		1		2			2					6
Hæmorrhage	1			1		1		2					5
Sudden Death			1										1
Other Causes not Specified or Ill-defined ..	1		1		3	2			1				8
TOTALS	786	505	146	135	153	187	237	239	225	146	25		2784

SUMMARY OF TABLE III.

TOGETHER WITH SUMMARY OF SIMILAR TABLES FOR THE PRECEDING SIXTEEN YEARS.

VII.

NUMBER OF DEATHS.																	
	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896
I.—SPECIFIC, FEBRILE, OR ZYMOTIC DISEASES :—																	
1.—Miasmatic Diseases.....	539	228	571	224	275	589	113	294	119	288	205	307	396	225	301	252	304
2.—Diarrhoeal Diseases.....	209	90	129	85	150	82	194	111	59	170	132	128	81	258	114	258	118
3.—Malarial Diseases.....	..	6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
4.—Zoonenous Diseases.....	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5.—Venereal Diseases	10	14	22	25	11	17	20	15	5	19	12	9	20	21	14	10	17
6.—Septic Diseases.....	20	22	28	20	14	30	14	14	16	17	24	16	9	12	16	4	6
II.—PARASITIC DISEASES	3	2	1	1	1	1	1	..	2	..	..	..	..	..	..	..	..
III.—DIETIC DISEASES.....	8	11	10	6	6	4	6	6	5	7	20	13	7	9	5	6	3
IV.—CONSTITUTIONAL DISEASES	366	326	454	410	425	392	395	373	380	514	481	517	482	479	500	473	445
V.—DEVELOPMENTAL DISEASES.....	183	187	174	228	237	201	188	182	205	218	269	281	236	237	224	264	252
VI.—LOCAL DISEASES :—																	
1.—Diseases of Nervous System.....	359	418	444	408	439	403	347	310	320	346	293	330	276	265	236	348	352
2.—Diseases of Organs of Special Sense	1	1	2	..	2	1	2	3	..	2	2	2	3	1	5	1	..
3.—Diseases of Circulatory System	159	132	161	216	164	170	160	183	211	214	238	228	192	227	233	222	195
4.—Diseases of Respiratory System.....	461	486	534	528	532	572	513	472	514	631	788	734	551	580	567	525	519
5.—Diseases of Digestive System	142	135	156	179	159	131	133	155	120	142	151	149	135	179	180	203	179
6.—Diseases of Lymphatic System	..	1	..	..	2	..	1	..	..	..	..	1	..	..	..	1	..
7.—Diseases of Gland-like Organs of un- certain use	..	1	1	2	1	..	1	2	2	..	1	..	..	..	..	2	2
8.—Diseases of Urinary System	40	42	52	43	47	41	47	54	60	34	50	68	54	55	59	38	61
9.—Diseases of Reproductive System :—																	
(a) Diseases of Organs of Genera- tion	..	4	13	8	7	6	8	1	3	5	3	3	5	1	1	1	1
(b) Diseases of Parturition	13	11	13	19	11	11	18	20	14	9	29	15	13	18	21	6	14
10.—Diseases of Bones and Joints	..	..	11	17	15	11	7	9	11	9	10	11	12	16	10	18	9
11.—Diseases of Integumentary System.	6	6	2	13	12	10	6	2	5	2	5	5	5	3	6	1	6
VII.—VIOLENCE :—																	
1.—Accident or Negligence	79	63	83	273	82	65	61	68	85	102	86	68	85	79	71	78	61
2.—Homicide.....	..	3	2	1	2	3	..	..	3	6	2	3	1	..	..	1	..
3.—Suicide	9	6	5	6	9	6	11	8	3	8	7	8	15	7	9	9	5
VIII.—ILL-DEFINED AND NOT SPECIFIED CAUSES.....	293	241	267	249	285	231	233	267	233	320	331	373	277	351	243	269	234
TOTALS	2901	2436	3146	2961	2888	2977	2479	2549	2375	3063	3140	3273	2774	3023	2815	2990	2784

TABLE IIIA.

SHOWING THE DEATHS FROM ALL CAUSES REGISTERED IN
EACH DISTRICT DURING THE YEAR 1896,

AT THREE PERIODS OF LIFE.

CAUSES OF DEATH.	Sunderland.			Bishopwth North.			Bishopwth South.			Monkwear-mouth.			Totals
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	
I.—Specific, Febrile, &c.	29	39	13	60	61	24	55	53	28	17	41	26	4
II.—Parasitic Diseases .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
III.—Dietic Diseases. .. ..	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	1	.....
IV.—Constitutional Diseases	1	8	55	10	16	127	7	14	119	13	14	61	4
V.—Developmental Diseases	18	.....	26	35	.....	47	24	.....	43	33	.....	26	2
VI.—Local Diseases	38	38	150	74	81	266	86	65	243	85	55	157	13
VII.—Deaths from Violence	1	2	10	1	4	13	1	3	15	2	4	10	.....
VIII.—Deaths from Ill-defined Causes ..	30	3	5	77	1	10	40	2	12	49	1	4	2
TOTALS	117	90	260	257	163	488	213	137	460	199	115	285	27
1.—Specific or Febrile Causes.													
1.—Miasmatic Diseases.													
Smallpox { Vaccinated .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Unvaccinated .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Unknown .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Measles	5	27	.....	6	39	5	5	28	1	2	20	.....	133
Scarlet Fever (Scarlatina)	1	.....	1	.....	4	2	.....	6	3	.....	8	3	22
Diphtheria	1	.....	.....	1	1	.....	.....	1	.....	.....	1	1	.....
Whooping Cough	4	3	2	11	10	.....	13	10	.....	8	10	1	75
Typhus Fever .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Enteric or Typhoid Fever .. ..	.....	2	5	.....	2	13	.....	1	15	.....	1	15	59
Simple Continued and Ill-defined Fever ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other Miasmatic Diseases—Influenza ..	.....	.....	.....	.....	.....	2	.....	.....	3	.....	.....	1	.....
2.—Diarrhœal Diseases.													
Simple Cholera .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Diarrhœa, Dysentery	14	7	3	39	5	2	31	4	4	7	1	1	118
3.—Malarial Diseases.													
Remittent Fever .. ..	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Ague .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4.—Zoogenous Diseases.													
Cowpox, Effects of Vaccination .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hydrophobia .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glanders .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Splenic Fever .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5.—Venereal Diseases.													
Syphilis	4	.....	.....	3	.....	.....	6	3	.....	.....	.....	1	17
Gonorrhœa, Stricture of Urethra ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
6.—Septic Diseases.													
Erysipelas .. ..	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	2
Pyæmia, Septicæmia .. ..	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	2	3
Puerperal Fever .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
II.—Parasitic Diseases.													
Thrush .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hydatids .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other Animal Parasitical Diseases ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
III.—Dietic Diseases.													
Starvation, want of Breast Milk .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Scurvy .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chronic Alcoholism, Delirium Tremens ..	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	1	3

TABLE IIIA.—CONTINUED.

CAUSES OF DEATH.	Sunderland.			Bishopwth. North.			Bishopwth. South			Monkwear- mouth.			Totals.
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	
IV.—Constitutional Diseases.													
Rheumatic Fever and Rheumatism of the Heart									2			1	3
Rheumatism						8		1	5				14
Gout													
Rickets		2		1	2		1	1		2			9
Cancer, Malignant Disease			21			25			34		1	17	98
Tabes Mesenterica	1	3		3	7	1	1	6		5	3	1	31
Tubercular Meningitis, Hydrocephalus		1	1	2	1	2	3	6	4	1	3	4	28
Phthisis		1	32		3	79			59	1	1	31	207
Other Tubercular & Scrofulous Diseases		1	1	3	3	5	2		6	4	6	6	37
Purpura, Hæmorrhagic Diathesis													
Anæmia, Chlorosis, Leucocythæmia				1		2			3				6
Glycosuria, Diabetes Mellitus						3			5			1	9
Other Constitutional Diseases						2			1				3
V.—Developmental Diseases.													
Premature Birth	12			35			20			32			99
Atelectasis	6						2			1			9
Congenital Malformations							2						2
Old Age			26			47			43			26	142
VI.—Local Diseases.													
1.—Diseases of Nervous System.													
Inflammation of Brain or Membranes	3	5	4	4	6	12	10	5	4	8	10	2	73
Apoplexy			17			33	1		33			20	104
Softening of Brain			2			4			1			2	9
Hemiplegia			5			8			8			5	26
Brain Paralysis												1	1
Insanity, General Paralysis of the Insane									1				1
Epilepsy						2			2			1	5
Convulsions	11	3		17	6	2	19	7		20	5		90
Laryngismus Stridulus					2								2
Paralysis Agitans												1	1
Paraplegia			5			5			5			4	19
Diseases of Spinal Cord				4	1	3			4	2			14
Other Diseases of Nervous System						2			2			3	7
2.—Diseases of Organs of Special Sense.													
Ear, Diseases of													
Eyes, „													
Nose, „													
3.—Diseases of Circulatory System.													
Endocarditis			1						1				2
Valvular Diseases of Heart			4			5			4			4	17
Pericarditis													
Other Diseases of Heart	1		31			43			50	1		31	157
Aneurism						3			2			2	7
Embolism, Thrombosis						2			1			1	4
Other Diseases of Blood Vessels			1			1			4	1		1	8
4.—Diseases of Respiratory System.													
Croup		1		1	5	1		4	1				13
Laryngitis			1		4	1		1	1		1	2	11
Bronchitis	14	9	28	25	18	46	19	16	30	11	8	13	237
Pneumonia		1	18	3	12	25	7	10	24	7	11	19	137
Broncho-Pneumonia	5	9	6	6	12	3	10	15	3	5	11	2	87
Pleuro-Pneumonia						3			1			2	6
Pleurisy		1	1			1			2			3	8
Emphysema						3			1			1	5
Asthma			1		1	4						4	10
Other Diseases of Respiratory System			1			1			1		1	1	5
5.—Diseases of Digestive System.													
Dentition	2	1		6	5		3	2		6	2		27
Sore Throat, Quinsey					1								1
Diseases of Stomach	1	1	2	2	1	7	5		6			3	28
Enteritis		2		2		2	8	2	1	22	1	2	42

TABLE IIIA.—CONTINUED.

CAUSES OF DEATH.	Sunderland.			Bishopwth North.			Bishopwth South.			Monkwearmouth.			Totals.
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	
VI.—Local Diseases—contd.													
Peritonitis	1	3	...	1	...	10	1	...	10	2	3	...	31
Obstructive Diseases of Intestines	...	2	2	1	...	2	...	1	3	...	...	2	13
Ascites	...	...	...	...	...	1	...	...	...	...	...	...	1
Cirrhosis of Liver	...	...	...	...	...	4	...	...	6	...	...	5	15
Jaundice and other Diseases of Liver	...	...	...	1	1	5	2	...	8	...	...	3	20
Other Diseases of Digestive System	...	...	...	...	1	...	...	...	...	...	...	...	1
6.—Diseases of Lymphatic System.													
Lymphatics and of Spleen	...	...	...	...	...	...	...	...	...	...	...	...	...
7.—Diseases of Glandlike Organs of Uncertain Use.													
Bronchocele	...	...	...	...	...	...	...	...	1	...	...	...	...
Addison's Disease	...	...	...	...	...	1	...	...	1	...	...	...	2
8.—Diseases of Urinary System.													
Nephritis	...	...	5	...	4	5	...	1	5	...	1	...	21
Bright's Disease, Albuminuria	...	...	5	...	...	6	...	...	8	...	1	12	32
Disease of Bladder	...	...	...	...	...	...	...	...	...	...	...	...	...
„ Prostate	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Diseases of the Urinary System	...	...	1	...	...	2	...	...	3	...	...	2	8
9.—Diseases of Re-productive System.													
A—Of Organs of Generation.													
Male Organs of Generation	...	...	...	...	...	...	...	...	...	...	...	...	...
Female Organs „	...	...	...	...	...	1	...	...	...	...	...	...	1
B—Of Parturition.													
Abortion, Miscarriage	...	...	...	...	...	1	...	...	...	...	...	...	1
Puerperal Convulsions	...	...	...	...	...	1	...	...	2	...	...	1	4
Placenta Prævia, Flooding	...	...	1	...	...	...	...	...	1	...	...	...	2
Other Accidents of Child Birth	...	...	3	...	...	1	...	...	2	...	...	1	7
10.—Diseases of Bones and Joints.													
Caries, Necrosis	...	...	1	...	...	1	1	1	...	...	...	1	5
Arthritis, Ostitis, Periostitis	...	...	...	...	...	2	...	...	...	...	...	...	2
Other Diseases of Bones and Joints	...	...	1	...	...	...	...	...	1	...	...	...	2
11.—Diseases of Integumentary System.													
Carbuncle	...	...	2	...	1	...	...	...	...	...	...	...	3
Phlegmon	...	...	...	...	...	...	...	...	...	...	...	...	...
Cellulitis	...	...	1	1	...	1	...	...	...	...	...	...	3
Other Diseases of Integumentary System	...	...	...	...	...	...	...	...	...	...	...	...	...
VII.—Violence.													
1.—Accident or Negligence.													
Fracture and Contusion	...	...	2	...	...	5	...	...	5	...	...	6	18
Gunshot Wound	...	...	...	...	...	...	...	...	...	...	...	...	...
Cut, Stab	...	...	...	...	...	...	...	...	...	...	...	...	...
Burn and Scald	...	1	2	...	4	3	...	3	1	...	2	1	17
Poison	...	...	...	...	...	...	...	...	1	...	...	...	1
Drowning	...	...	3	...	...	...	...	...	5	...	1	1	10
Suffocation	1	1	1	1	...	...	1	...	...	2	...	...	7
Otherwise	...	...	...	...	...	2	...	...	2	...	1	2	7
2.—Homicide { Manslaughter	...	...	1	...	...	...	...	...	...	...	...	...	1
„ { Murder	...	...	...	...	...	...	...	...	...	...	...	...	...
3.—Suicide	...	...	1	...	...	3	...	...	1	...	...	...	5
VIII.—Deaths from Ill-defined Causes.													
Dropsy	...	1	3	...	...	...	...	...	1	...	...	...	5
Debility, Marasmus, Atrophy, and In-													
anition	30	2	...	77	1	1	38	2	...	48	1	...	200
Mortification	...	...	1	...	...	...	...	...	3	...	...	1	8
Tumour	...	...	...	...	...	4	...	...	...	...	...	...	...
Abscess	...	...	...	...	...	1	1	...	4	...	...	...	6
Hæmorrhage	...	...	...	...	...	1	1	...	1	...	...	2	5
Sudden Death	...	...	...	...	...	...	...	...	1	...	...	...	1
Other causes not specified or Ill-defined	...	...	1	...	...	3	...	...	2	1	...	1	8
TOTALS	117	90	260	257	163	488	213	137	460	199	115	285	2784

TABLE IIIB.

SHOWING THE DEATHS FROM ALL CAUSES REGISTERED IN
EACH QUARTER.

CAUSES OF DEATH.	1st Quarter.			2nd Quarter.			3rd Quarter.			4th Quarter.			Totals.
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	
I.—Specific, Febrile, &c.	25	41	18	29	101	12	92	36	33	15	16	28	446
II.—Parasitic Diseases .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
III.—Dietic Diseases .. ..	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	2	3
IV.—Constitutional Diseases	4	7	85	8	12	97	12	15	97	7	18	83	445
V.—Developmental Diseases	16	....	28	32	....	43	25	....	26	37	....	45	252
VI.—Local Diseases	68	64	213	58	67	232	76	59	140	81	49	231	1338
VII.—Deaths from Violence .. ..	.....	4	17	1	4	14	2	1	9	2	4	8	66
VIII.—Deaths from Ill-defined Causes ..	37	1	10	41	2	8	72	....	9	46	4	4	234
TOTALS	150	117	171	169	186	407	279	111	314	188	91	401	2784
I.—Specific or Febrile Causes.													
1.—Miasmatic Diseases.													
Smallpox { Vaccinated .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Unvaccinated .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Unknown.. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Measles	3	24	3	12	75	2	3	12	1	....	3	....	138
Scarlet Fever (Scarlatina) .. ..	....	4	4	1	5	1	....	5	1	....	4	3	28
Diphtheria	1	1	....	....	2	....	....	....	....	1	....	1	6
Whooping Cough	13	12	....	9	16	3	10	3	....	4	2	....	72
Typhus Fever .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Enteric or Typhoid Fever .. ..	.....	.....	8	....	1	2	....	3	20	....	2	18	54
Simple Continued and Ill-defined Fever ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other Miasmatic Diseases, Influenza ..	.....	.....	1	.....	.....	2	.....	.....	2	.....	.....	1	6
2.—Diarrhoeal Diseases.													
Simple Cholera .. ..	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Diarrhoea, Dysentery	4	....	1	3	1	....	75	12	8	9	4	1	118
3.—Malarial Diseases.													
Remittent Fever .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Ague .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4.—Zoogenous Diseases.													
Cowpox, Effects of Vaccination .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hydrophobia .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glanders.. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Splenic Fever .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5.—Venereal Diseases.													
Syphilis	4	....	....	4	1	1	4	1	....	1	1	....	17
Gonorrhoea, Stricture of Urethra.. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
6.—Septic Diseases.													
Erysipelas .. ..	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	2
Pyæmia, Septicæmia .. ..	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	2	3
Puerperal Fever .. ..	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1
II.—Parasitic Diseases.													
Thrush .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hydatids .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other Animal Parasitical Diseases .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
III.—Dietic Diseases.													
Starvation, want of Breast Milk .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Scurvy .. ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Chronic Alcoholism, Delirium Tremens..	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	2	3

TABLE III_B.—CONTINUED.

CAUSES OF DEATH.	1st Quarter.			2nd Quarter.			3rd Quarter.			4th Quarter.			Totals
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	
IV.—Constitutional Diseases.													
Rheumatic Fever and Rheumatism of the Heart.. .. .						2			1				
Rheumatism			2		1	3			6			2	11
Gout													
Rickets	1				2		2	1		1	2		
Cancer, Malignant Disease.. .. .			19			25		1	26			27	95
Tabes Mesenterica	2	2		3	4		4	8	2	1	5		31
Tubercular Meningitis, Hydrocephalus ..	1	3	1	1	3	4	2	1	2	2	4	4	23
Phthisis		2	54	1	1	52			50		2	45	207
Other Tubercular & Scrofulous Diseases ..			4	3	1	5	3	4	7	3	5	2	33
Purpura, Hæmorrhagic Diathesis													
Anæmia, Chlorosis, Leucocythæmia			2			3	1						6
Glycosuria, Diabetes Mellitus			3			1			2			3	9
Other Constitutional Diseases						2			1				3
V.—Developmental Diseases.													
Premature Birth	14			29			22			34			99
Atelectasis				3			3			3			9
Congenital Malignations	2												2
Old Age			28			43			26			45	142
VI.—Local Diseases.													
1.—Diseases of Nervous System.													
Inflammation of Brain or Membranes ..	6	9	5	1	6	8	12	7	4	6	4	5	73
Apoplexy			23	1		31			21			28	104
Softening of the Brain			2			2			1			4	9
Hemiplegia			5			8			4			9	26
Brain Paralysis						1							1
Insanity, General Paralysis of the Insane ..			1										1
Epilepsy						1			1			3	5
Convulsions	20	1		13	4		13	8		21	8	2	90
Laryngismus Stridulus					2								2
Paralysis Agitans			1										1
Paraplegia			7			1			5			6	19
Diseases of Spinal Cord	4	1	1			1			3	2		2	14
Other Diseases of Nervous System			2			2			2			1	7
2.—Diseases of Organs of Special Sense.													
Ear, Diseases of													
Eyes, "													
Nose, "													
3.—Diseases of Circulatory System.													
Endocarditis						2							2
Valvular Diseases of Heart.. .. .			1			15			1				17
Pericarditis													
Other Diseases of Heart			40	1		34			32	1		49	157
Aneurism			1			2			2			2	7
Embolism, Thrombosis			1			2						1	4
Other Diseases of Blood Vessels			3			1				1		3	8
4.—Diseases of Respiratory System.													
Croup		4	1	1	4			1	1		1		13
Laryngitis		3			2	2					1	3	11
Bronchitis	19	19	35	13	13	39	11	11	13	26	8	30	237
Pneumonia	6	9	31	6	10	19	3	8	15	2	7	21	137
Broncho-Pneumonia	3	10	3	8	16	6	7	7		8	14	5	87
Pleuro-Pneumonia			4			1						1	6
Pleurisy			1			3		1	1			2	8
Emphysema						2			1			2	5
Asthma			2			2			1			2	10
Other Diseases of Respiratory System ..						3			1		1		5
5.—Diseases of Digestive System.													
Dentition	5	2		6	4		3	1		3	3		27
Sore Throat, Quinsey								1					1
Diseases of Stomach	1	1	8	1		1	4	1	4	2		5	28
Enteritis.. .. .	1			4		1	19	4		8	1	4	42

TABLE IIIB.—CONTINUED.

CAUSES OF DEATH.	1st Quarter.			2nd Quarter.			3rd Quarter.			4th Quarter.			Totals.
	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	Under 1.	1 to 5.	Over 5.	
VI.—Local Diseases—contd.													
Peritonitis	2	2	5	1	2	6	2	2	3	.....	.....	6	31
Obstructive Diseases of Intestines		1	1	1	.....	3	.....	2	3	.....	.....	2	13
Ascites			1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Cirrhosis of Liver			5	.....	.....	4	.....	.....	.....	.....	.....	6	15
Jaundice and other Diseases of Liver		1	2	1	.....	4	1	.....	5	1	.....	5	20
Other Diseases of Digestive System								1	.....	.....	.....	.....	1
6.—Diseases of Lymphatic System.													
Lymphatics and of Spleen													
7.—Diseases of Glandlike Organs of Uncertain Use.													
Bronchocele													
Addison's Disease			1	.....	.....	.....	.....	.....	.....	.....	.....	1	2
8.—Diseases of Urinary System.													
Nephritis		1	3	.....	3	7	.....	2	5	.....	.....	.....	21
Bright's Disease, Albuminuria			5	.....	.....	10	.....	.....	7	.....	1	9	32
Disease of Bladder													
„ Prostate													
Other Diseases of the Urinary System			4	.....	.....	1	.....	.....	.....	.....	.....	3	8
9.—Diseases of Re-productive System.													
A—Of Organs of Generation.													
Male Organs of Generation													
Female Organs „												1	1
B—Of Parturition.													
Abortion, Miscarriage												1	1
Puerperal Convulsions			2	.....	.....	.....	.....	.....	.....	.....	.....	2	4
Placenta Prævia, Flooding						2	.....	.....	.....	.....	.....	.....	2
Other Accidents of Child Birth						3	.....	.....	.....	.....	.....	4	7
10.—Diseases of Bones and Joints.													
Caries, Necrosis			3	.....	.....	.....	1	1	.....	.....	.....	.....	5
Arthritis, Ostitis, Periostitis			1	.....	.....	1	.....	.....	.....	.....	.....	.....	2
Other Diseases of Bones and Joints						1	.....	.....	1	.....	.....	.....	2
11.—Diseases of Integumentary System.													
Carbuncle			1	.....	1	.....	.....	.....	.....	.....	.....	1	3
Phlegmon													
Cellulitis	1	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	3
Other Diseases of Integumentary System													
VII.—Violence.													
1.—Accident or Negligence.													
Fracture and Contusion			8	.....	.....	6	.....	.....	2	.....	.....	2	18
Gunshot Wound													
Cut, Stab													
Burn and Scald		3	4	.....	3	.....	.....	.....	1	.....	4	2	17
Poison			1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Drowning					1	3	.....	.....	5	.....	.....	1	10
Suffocation		1	.....	1	.....	.....	2	.....	.....	2	.....	1	7
Otherwise			2	.....	.....	3	.....	1	1	.....	.....	.....	7
2.—Homicide { Manslaughter													
{ Murder													
3.—Suicide													
.....													
VIII.—Deaths from Ill-defined Causes.													
Dropsy			1	.....	.....	.....	.....	.....	3	.....	1	.....	5
Debility, Marasmus, Atrophy, and In-													
anition	36	1	.....	40	2	1	72	.....	.....	45	3	.....	200
Mortification												1	1
Tumour			4	.....	.....	1	.....	.....	3	.....	.....	.....	8
Abscess			2	1	.....	2	.....	.....	1	.....	.....	.....	6
Hæmorrhage						1	.....	.....	.....	1	.....	3	5
Sudden Death						1	.....	.....	.....	.....	.....	.....	1
Other Causes not specified or Ill-defined	1	.....	3	.....	.....	2	.....	.....	2	.....	.....	.....	8
TOTALS	150	117	371	169	186	407	279	111	314	188	91	401	2784

TABLE IIIc.

SHOWING THE DEATHS FROM ALL CAUSES FOR FIFTEEN YEARS, 1882-

CAUSES OF DEATH.	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895
I.—Specific or Febrile Causes.														
<i>1.—Miasmatic Diseases.</i>														
Smallpox { Vaccinated	13	23	2	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
{ Unvaccinated	13	30	5	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
{ Unknown	1	26	31	10	.....	.....	.....	.....	.....	.....	.....	4	.....	.....
Measles	191	16	7	385	4	168	4	126	19	148	121	17	119	8
Scarlet Fever (Scarlatina)	168	38	46	106	27	17	19	38	72	26	20	26	25	1
Diphtheria	18	18	13	12	5	7	16	19	11	8	8	5	6	8
Whooping Cough	106	22	95	32	51	59	46	68	52	40	99	23	65	6
Typhus Fever	34	41	11	16	7	7	7	8	6	6	7	18	5	2
Enteric or Typhoid Fever	42	33	13	16	13	30	20	28	35	37	48	108	74	12
Simple Continued and Ill-defined Fever	11	4	4	4	6	6	6	1	4	12	5	9	4	2
Other Miasmatic Diseases, Influenza .. .. .	.....	.....	.....	1	.....	.....	.....	.....	6	30	7	14	3	2
<i>2.—Diarrhœal Diseases.</i>														
Simple Cholera	4	2	.....	1	.....	.....	.....	1	1	1	1	.....	1	.....
Diarrhœa, Dysentery	125	83	150	81	194	111	59	169	132	127	80	258	113	258
<i>3.—Malarial Diseases.</i>														
Remittent Fever .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ague .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>4.—Zoogenous Diseases.</i>														
Cowpox, Effects of Vaccination	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hydrophobia .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glanders .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Splenic Fever .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
<i>5.—Venereal Diseases.</i>														
Syphilis	21	22	11	17	20	14	5	16	12	9	18	17	14	10
Gonorrhœa, Stricture of Urethra	1	3	.....	.....	.....	1	.....	3	.....	.....	2	4	.....	.....
<i>6.—Septic Diseases.</i>														
Erysipelas	19	15	9	13	8	7	6	6	14	7	2	10	7	3
Pyæmia, Septicæmia	3	3	2	7	2	4	4	6	5	5	1	.....	4	.....
Puerperal Fever	6	2	3	10	4	3	6	5	5	4	6	2	5	1
II.—Parasitic Diseases.														
Thrush	1	.....	1	1	1	.....	2	.....	.....	.....	.....	.....	.....	.....
Hydatids .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Other Animal Parasitical Diseases .. .. .	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
III.—Dietic Diseases.														
Starvation, Want of Breast Milk	2	2	3	1	3	1	2	1	3	5	5	4	.....	.....
Scurvy .. .. .	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Chronic Alcoholism, Delirium Tremens	8	4	3	3	3	5	3	6	17	7	2	5	5	6
IV.—Constitutional Diseases.														
Rhenmatic Fever and Rheumatism of the Heart	5	6	5	4	2	4	2	3	2	8	4	3	1	2
Rheumatism	6	6	4	6	4	4	8	4	8	2	10	6	7	2
Gout .. .. .	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rickets .. .. .	.....	1	3	.....	2	.....	1	4	1	.....	7	8	9	5
Cancer, Malignant Disease	57	55	51	51	54	72	77	88	67	99	78	74	92	82
Tabes Mesenterica	42	22	40	23	19	27	19	34	32	21	19	32	28	62
Tubercular Meningitis, Hydrocephalus	50	37	38	43	34	25	37	91	91	99	104	84	87	48
Phthisis	247	236	227	212	237	203	191	235	239	218	212	203	236	233
Other Tubercular and Scrofulous Diseases	46	34	48	38	26	26	28	39	34	47	28	57	18	32

TABLE IIIc.—CONTINUED.

CAUSES OF DEATH.	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896
—Constitutional Diseases. <i>(continued)</i>															
Purpura, Hæmorrhagic Diathesis	1	1	1	1	1	1	....	3	1	4	2	1	2	....	....
æmia, Chlorosis, Leucocythæmia	5	3	3	7	9	6	9	6	2	9	7	6	3	3	6
Glycosuria, Diabetes Mellitus	4	8	5	7	7	4	8	7	4	8	11	4	5	3	9
Other Constitutional Diseases	1	....	....	....	....	1	....	....	....	2	....	1	9	1	3
—Developmental Diseases.															
Immature Birth	68	88	75	60	60	51	66	66	92	91	83	73	103	98	99
Macularia	3	7	3	6	....	1	2	1	3	....	6	3	2	1	9
Genital Malformations	6	5	6	6	3	7	5	6	5	1	11	5	1	2	2
Age	97	128	153	129	125	123	132	145	169	189	136	156	118	163	142
—Local Diseases.															
<i>1.—Diseases of Nervous System.</i>															
Inflammation of Brain and Membranes ..	100	87	90	90	90	92	96	86	48	43	29	49	7	86	73
Epilepsy	47	61	62	53	50	41	42	54	35	74	64	54	54	88	104
Softening of Brain	11	24	8	6	7	11	3	14	9	7	8	7	3	13	9
Coma	4	6	10	16	16	11	14	10	10	20	12	13	19	12	26
Paralysis .. .. .	....	2	....	1	....	1	....	1	1	....	....	....	....	2	1
Idiocy, General Paralysis of the Insane ..	5	....	....	1	....	....	....	....	....	1	1	....	....	10	1
Epilepsy	13	10	10	15	5	8	6	7	10	15	20	9	9	8	5
Convulsions	167	121	167	138	102	95	95	103	110	103	95	85	75	94	90
Tetanus Stridulus	2	2	2	....	1	1	1	2	2	2	....	....	1	1	2
Chorea Agitans .. .. .	....	....	....	....	....	1	....	1	....	1	1	....	12	1	1
Paralysis	61	55	48	46	59	34	44	62	65	57	38	41	16	25	19
Diseases of Spinal Cord	4	2	3	7	....	1	2	3	2	1	2	1	10	1	14
Other Diseases of Nervous System	30	38	39	30	17	14	17	6	1	6	6	6	30	7	7
<i>2.—Diseases of Organs of Special Sense.</i>															
Deafness, Diseases of	1	....	2	1	2	2	....	2	2	2	3	1	5	1	....
Blindness, ...	1	....	....	....	....	1	....	....	....	....	....	....	....	....	....
Deafness, .. .. .	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
<i>3.—Diseases of Circulatory System.</i>															
Endocarditis	3	....	....	1	1	2	2	2	2	1	....	4	3	2	2
Valvular Disease of Heart	13	15	31	18	12	12	3	14	16	21	25	22	14	10	17
Pericarditis	8	14	9	5	7	3	7	5	3	....	4	1	1	2	....
Other Diseases of the Heart	129	174	111	135	135	159	187	182	200	193	153	184	205	190	157
Aneurysm	1	4	6	3	2	3	7	6	7	3	6	10	6	10	7
Embolism, Thrombosis	1	2	2	3	2	2	1	2	3	6	3	2	2	2	4
Other Diseases of Blood Vessels	6	7	5	5	1	2	4	3	7	4	1	4	2	6	8
<i>4.—Diseases of Respiratory System.</i>															
Croup	32	34	37	23	21	19	24	19	9	14	12	15	10	10	13
Laryngitis	12	12	11	10	7	15	9	7	13	7	8	10	10	13	11
Tracheitis	249	285	282	324	314	235	248	305	400	399	266	260	239	276	237
Pneumonia	181	156	172	185	138	142	193	230	305	224	178	222	198	151	137
Stycho-Pneumonia	16	....	12	16	18	50	26	53	45	64	68	55	80	51	87
Stycho-Pneumonia	1	....	3	....	....	4	2	6	7	5	7	1	4	2	6
Styry	3	11	3	5	3	1	4	5	4	8	5	8	4	8	8
Styphema	3	6	2	1	1	1	2	1	....	2	1	2	3	2	5
Styhma	6	6	2	2	8	2	2	4	4	6	4	4	5	5	10
Other Diseases of Respiratory System ..	31	18	8	6	3	3	4	1	1	5	2	3	14	7	5
<i>5.—Diseases of Digestive System.</i>															
Styition	41	33	27	32	23	18	19	31	28	30	24	26	31	28	27
Sty Throat, Quinsey	2	2	1	2	1	3	1	1	1	....	....	2	1	....	1
Sty Diseases of Stomach	13	17	5	13	18	15	16	15	24	10	20	20	17	34	28
Styeritis	15	17	16	10	8	12	8	16	7	30	20	45	25	65	42
Styitonitis	17	24	28	16	15	32	28	23	21	22	19	30	38	23	31
Stystructive Diseases of Intestines	20	13	11	13	16	10	8	9	18	12	9	7	10	13	13
Styites	1	1	1	1	1	2	....	1	1	....	....	1	1	....	1
Styrosis of Liver	9	23	19	11	24	18	14	14	17	11	10	13	12	15	15
Styndice and other Diseases of Liver ..	29	35	24	24	17	30	19	25	18	13	18	20	22	13	20
Other Diseases of Digestive System	9	14	27	9	10	15	7	7	16	21	15	15	23	12	1

TABLE IIIc —CONTINUED.

CAUSES OF DEATH.	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895
VI.—Local Diseases—contd.														
6.—Disease of Lymphatic System.														
Lymphatics and of Spleen			2		1					1				
7.—Diseases of Glandlike Organs of Uncertain Use.														
Bronchocele		2	1											
Addison's Disease	1				1	2	2		1					
8.—Diseases of Urinary System.														
Nephritis	23	14	20	8	18	26	22	15	18	28	22	31	21	
Bright's Disease, Albuminuria	11	14	10	20	14	13	28	15	16	18	20	20	24	
Disease of Bladder	4	4	2	6	6	10	2	3	7	11	5	2	2	
„ Prostate	4	2	3	1	4	1	2	1	2	2	2	1	6	
Other Diseases of the Urinary System	10	9	12	6	5	4	6	....	7	9	5	1	6	
9.—Diseases of Re-proactive System.														
A—Of Organs of Generation.														
Male Organs of Generation	1	....	1	....	....	....	....	....	....	2	....	....	1	....
Female Organs „	12	8	6	6	8	1	3	5	2	1	5	1	....	
B—Of Parturition.														
Abortion, Miscarriage .. .. .	....	1	1	....	....	1	....	....	1	....	1	....	....	
Puerperal Convulsions	1	1	4	2	4	2	2	1	1	2	....	2	4	
Placenta Prævia, Flooding	4	1	1	....	1	3	2	1	1	....	2	1	1	
Other Accidents of Child Birth	8	16	5	9	13	14	10	7	27	13	10	15	16	
10.—Diseases of Bones and Joints.														
Caries, Necrosis	3	3	7	4	2	2	2	3	1	4	3	4	5	
Arthritis, Ostitis, Periostitis .. .. .	....	1	....	1	....	1	....	....	1	5	1	1	1	
Other Diseases of Bones and Joints	8	13	6	6	5	6	9	6	8	2	8	11	4	
11.—Diseases of Integumentary System.														
Carbuncle .. .. .	....	1	1	....	2	1	1	1	....	3	1	....	1	....
Phlegmon .. .. .	....	....	....	....	....	....	....	....	....	....	....	....	....	
Cellulitis	1	2	1	3	1	....	2	....	5	1	2	2	3	
Other Diseases of Integumentary System.. .. .	1	8	7	5	3	1	2	1	....	1	2	1	2	....
VII.—Violence.														
1.—Accident or Negligence.														
Fracture and Contusion	47	38	42	34	28	39	33	53	46	29	29	36	11	....
Gunshot Wound .. .. .	....	....	....	....	....	1	....	....	....	....	....	....	....	
Cut, Stab .. .. .	....	2	1	....	....	....	....	1	....	1	....	2	1	....
Burn and Scald	6	11	11	14	9	13	14	15	8	14	25	13	15	....
Poison	2	....	2	....	....	....	1	7	3	3	3	4	1	....
Drowning	6	20	14	7	14	10	17	10	19	11	15	9	14	....
Suffocation	2	*192	12	8	5	4	15	14	8	8	12	10	17	....
Otherwise	10	10	....	2	5	1	5	2	2	6	1	5	12	....
2.—Homicide { Manslaughter	8	....	....	2	....	....	1	1	....	3	....	....	....	
„ { Murder	10	1	2	1	....	....	2	5	2	....	1	....	....	
3.—Suicide	5	6	9	6	11	8	3	8	7	8	15	7	9	
VIII.—Deaths from ill-defined Causes.														
Dropsy	7	7	2	6	2	2	2	4	4	7	....	2	3	
Debility, Marasmus, Atrophy, & Inanition	226	217	259	196	193	218	193	287	279	314	239	282	210	21
Mortification .. .. .	....	....	....	....	....	....	....	....	1	....	1	....	....	
Tumour .. .. .	....	1	2	1	5	6	5	3	5	5	6	8	11	1
Abscess	3	2	3	1	7	7	12	2	13	9	6	10	7	....
Hæmorrhage .. .. .	....	2	1	2	4	7	2	7	11	11	9	22	5	....
Sudden Death	5	1	2	3	4	5	5	....	....	2	3	5	5	....
Other Causes not specified or Ill-defined	26	21	24	24	18	22	14	17	18	25	13	22	2	1
TOTALS	3146	2961	2888	2977	2479	2549	2375	3063	3140	3273	2774	3023	2815	299

* 183 Caused by Victoria Hall Disaster.

TABLE IV.

OCCUPATION OF PERSONS, 20 Years of Age and upwards, who died from the undermentioned Diseases during 1896.

(Given as accurately as the Mortality Returns allowed.)

Occupations.	Smallpox.	Enteric Fever.	Typhus Fever.	Heart Disease.	Phthisis.	Pneumonia.	Apoplexy.	Paralysis.	Cancer.	Totals.
Accountant.....	..	..	..	..	..	..	1	..	..	1
Anchor Smiths	..	..	..	..	1	..	..	..	1	2
Angle Iron Smith	..	..	..	..	..	1	..	..	..	1
Baker	..	1	..	..	..	..	..	..	..	1
Barman	..	..	..	..	1	..	..	..	..	1
Bar Manager	..	..	..	..	1	..	..	..	..	1
Blacksmiths	..	..	..	1	..	..	..	..	2	3
Block and Mast Maker	..	..	..	..	..	1	..	..	..	1
Boatbuilder	..	..	..	..	..	..	..	..	1	1
Boiler Makers	..	..	..	2	1	1	..	..	1	5
Boiler Smiths	..	1	..	..	..	..	..	..	2	3
Bottle Makers	..	..	..	..	1	2	..	..	..	3
Brass Moulder	..	..	..	..	1	..	..	..	..	1
Bricklayer	..	..	..	..	..	..	1	..	..	1
Brickmaker	..	..	..	1	..	..	..	..	..	1
Butchers	..	..	..	..	2	1	..	..	..	3
Cab Drivers	..	..	..	..	1	1	..	..	..	2
Cabinet Maker	..	..	..	..	1	..	..	..	..	1
Cartmen	..	1	..	1	1	1	..	..	1	5
Chairmakers	..	..	..	..	..	..	2	..	..	2
Chemists	..	1	..	1	..	..	..	..	1	3
Clergyman	..	..	..	..	..	..	..	1	..	1
Clerks	..	..	..	1	7	1	..	..	..	9
Coal Trimmer	..	..	..	1	..	..	..	..	..	1
Coach Trimmer	..	..	..	1	..	..	..	..	..	1
Colliery Engineer	..	..	..	1	..	..	..	..	..	1
Commercial Traveller	..	..	..	..	1	..	..	..	..	1
Commission Agent.....	..	..	..	..	..	..	1	..	..	1
Compositor	..	..	..	..	1	..	..	..	..	1
Craneman	..	..	..	..	1	..	..	..	..	1
Cutter and Caulker	..	..	..	..	..	1	..	..	..	1
Dock Waterman	..	..	..	..	..	..	..	..	1	1
Dock Foreman	..	..	..	..	1	..	..	..	..	1
Draughtsman	..	..	..	..	1	..	..	..	..	1
Drillers	..	..	..	2	1	1	1	..	1	6
Engineers	..	..	..	2	..	1	..	..	..	3
Engine Fitters	..	3	..	1	4	..	..	..	2	10
Engineman	..	..	..	1	..	..	..	..	..	1
Firemen	..	..	..	..	2	1	..	..	..	3
Fish Curer	..	..	..	..	..	1	..	..	..	1
Fisherman	..	..	..	..	1	..	..	..	..	1
Fish Mongers.....	..	1	..	..	1	..	..	..	..	2
Fitters	..	1	..	1	1	..	..	..	..	3
Foreman, R.W. Goods Yard	..	..	..	..	..	..	1	..	..	1
French Polishers	..	..	..	..	2	..	..	..	..	2
Gardeners	..	..	..	..	1	..	..	1	..	2
General Dealers	..	1	..	..	1	..	..	..	1	3

TABLE IV.—CONTINUED.

Occupations.	Smallpox.	Enteric Fever.	Typhus Fever.	Heart Disease.	Phthisis.	Pneumonia.	Apoplexy.	Paralysis.	Cancer.	Totals.
Glass Works Manager	..	..	..	..	..	..	..	..	1	1
Grocers	..	1	..	1	1	..	2	1	..	6
Groom	..	..	..	..	1	..	..	..	..	1
Hairdresser	..	..	..	1	..	..	..	..	..	1
Hawker	..	..	..	..	1	..	..	..	..	1
Holder-up	..	..	..	1	..	..	..	..	..	1
Horse Shoer	..	1	..	..	..	..	..	..	..	1
House Builder	..	..	..	..	..	..	..	..	1	1
Inn Keepers	..	..	..	..	2	..	..	..	..	2
Inspector..	..	..	..	..	..	..	..	..	1	1
Insurance Agents	..	..	..	1	1	..	..	..	..	2
Ironmoulder	..	1	..	..	..	..	..	..	..	1
Ironpuddler	..	..	..	..	..	..	1	..	..	1
Ironmonger	..	..	..	..	..	..	..	..	1	1
Ironworker	..	..	..	..	..	1	..	..	..	1
Joiners.....	..	..	..	1	3	1	1	1	2	9
Land Proprietor.....	..	..	..	..	..	1	..	..	..	1
Labourers	..	4	..	12	19	12	7	3	8	65
Machinist	..	..	..	..	..	..	1	..	..	1
Mariner	..	..	..	..	..	..	1	..	..	1
Mat Maker.....	..	..	..	1	..	..	..	..	..	1
Masons	..	..	..	..	1	..	..	1	..	2
Master Mariners	..	..	..	2	..	..	1	..	..	3
Medical Officer	..	..	..	..	..	1	..	..	..	1
Metal Broker	..	..	..	1	..	..	..	..	..	1
Metal Moulder	..	..	..	..	1	..	..	..	..	1
Mineral Agent	..	..	..	1	..	..	..	..	..	1
Miners	..	..	..	1	4	1	1	..	..	7
Painters	..	..	..	2	..	..	2	1	..	5
Paper Hangers	..	..	..	1	..	1	..	..	..	2
Pattern Maker	..	..	..	..	..	1	..	..	..	1
Pavior	..	..	..	..	..	1	..	..	..	1
Pilots	..	1	..	..	..	1	1	..	..	3
Platers.....	..	..	..	1	2	..	1	..	..	4
Plumber	..	..	..	..	1	..	..	..	..	1
Police Constable	..	..	..	..	1	..	..	..	..	1
Porters	..	..	..	1	..	1	..	..	..	2
Poulterer.....	..	..	..	..	..	1	..	..	..	1
Printers	..	..	..	..	2	..	..	..	..	2
Quarryman.....	..	..	..	1	..	..	..	..	..	1
Reporter	..	..	..	..	1	..	..	..	..	1
Rigger	..	..	..	1	..	..	..	..	..	1
Retired Licensed Victualler.....	..	..	..	..	..	..	..	1	..	1
Rivetters.....	..	2	..	2	2	1	..	..	1	8
Rivet Heater	..	..	..	..	1	..	..	..	..	1
Rope Maker	..	..	..	..	1	..	..	..	..	1
Sail Maker	..	..	..	..	..	..	..	..	1	1
Sawyer.....	..	..	..	1	..	..	..	..	..	1
Seamen	..	..	..	7	4	3	3	..	1	18
Shoemakers	..	..	..	1	..	1	1	..	..	3
Shipowner	..	..	..	1	..	..	..	..	..	1
Slater	..	1	..	..	..	..	..	..	..	1

TABLE IV.—CONTINUED.

Occupations.	Smallpox.	Enteric Fever.	Typhus Fever.	Heart Disease.	Phthisis.	Pneumonia.	Apoplexy.	Paralysis.	Cancer.	Totals.
Spirit Merchant.....	...	...	...	...	...	1	...	...	...	1
Shipwrights	...	...	...	3	3	5	...	2	1	14
Soap Refiner	...	...	...	...	1	...	...	...	...	1
Stationer's Manager	...	...	...	...	...	1	...	...	...	1
Stone Masons.....	...	...	...	...	1	1	...	...	...	2
S.S. Stokers.....	...	1	...	...	1	...	...	...	...	2
Storekeeper	...	...	...	...	1	...	...	...	...	1
Ship Steward	...	...	...	1	...	...	...	...	...	1
Striker.....	...	...	...	...	1	...	...	...	...	1
Tailors.. ..	...	...	...	3	4	...	...	...	...	7
Tinsmith.....	...	...	...	...	...	...	1	...	...	1
Trimmers	...	...	...	1	...	2	1	1	...	5
Umbrella Maker	...	...	...	...	...	1	...	...	...	1
Upholsterer... .	...	...	...	...	1	...	...	...	...	1
Warehouseman	...	...	...	...	...	...	1	...	1	2
Waterman	...	...	...	...	...	...	...	...	1	1
Worsted Manufacturer	...	...	...	1	...	...	...	...	...	1

TABLE V.

STREETS in which ZYMOTIC DISEASES were known to have occurred in the
Year 1896.

SUNDERLAND (SUB-DISTRICT).

CASES NOTIFIED.

DEATHS FROM

Street.	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.	Removed to Hospital	Deaths.	Measles.	Whooping Cough.	Diarrhoea.
Back North Moor street	...	...	...	...	1	...	1	...	...	...	...
Bank street.....	...	1	...	...	...	...	...	...	...	...	...
Burleigh street	...	3	...	...	1	...	1	1	2	1	1
Chapel street	...	1	...	...	...	...	...	...	...	...	...
Chipchase street.....	...	...	...	...	...	...	...	...	1	...	...
Church street	...	1	...	...	...	...	1	1	...	...	...
Commissioner's quay.....	...	...	...	...	1	...	...	...	...	...	1
Coronation street	...	...	...	...	2	...	1	...	...	...	...
Covent Garden street	...	...	...	...	2	...	2	...	2	2	1
Elliot's yard, South Dock	...	...	...	...	...	1	...	1	...	...	...
Ettrick quay	...	...	...	...	...	...	...	...	...	...	1
Flag lane	...	1	...	...	...	...	...	...	...	...	...
George street	...	1	...	1	2	...	1	...	3	...	3
Golden alley	...	...	...	...	...	...	...	...	1	...	1
Grey street	...	...	...	...	...	...	...	...	1	...	...
Hartley street.....	...	2	...	...	1	...	...	...	1	1	1
Hat case	...	...	...	...	1	...	1	...	...	...	1
Havelock street	...	1	...	...	...	...	...	...	2	...	1
High street East	...	5	...	...	2	3	3	...	2	1	2
James Williams street	...	1	...	...	1	...	1	1	...	...	...
Long bank	...	...	...	...	1	...	1	...	...	...	...
Low quay	...	1	...	...	...	...	1	...	...	...	...
Low street	...	1	...	...	3	...	3	2	...	...	...
Maling's rigg	...	...	...	1	...	...	...	...	1	2	2
Minorca	...	...	...	...	1	...	...	...	1	...	...
Moorgate street	...	1	...	...	3	...	1	1	1	...	...
Nesham square	...	2	...	...	2	...	...	1	4	...	...
New Grey street	...	...	...	...	1	...	...	...	2	...	1
North Moor street	...	3	...	...	...	...	...	...	...	...	...
Northumberland place	...	...	...	...	...	...	...	...	1	...	...
Outram street.....	...	...	...	...	...	...	...	...	2	1	1
Queen street	...	...	...	...	...	...	...	...	1	...	2
Sans street	...	...	...	...	...	...	...	...	...	...	1
Silver street	...	...	...	...	...	...	...	...	...	...	3
Spring Garden lane	...	...	...	...	...	...	...	...	...	1	...
Stamp's lane ..	...	1	...	...	...	...	1	...	...	...	...
Thomas street	...	...	...	...	...	...	...	...	1	...	...
Trafalgar square.....	...	1	...	...	...	...	...	...	...	...	...
Trinity place	...	...	...	...	...	...	...	...	...	...	1
Vine street	...	3	...	...	...	...	1	1	1	...	...
Walton place	...	...	...	...	1	...	1	...	...	1	...
Walton lane	...	...	...	...	...	...	...	...	2	...	...
Lower Dean's yard.....	...	1	...	...	...	...	...	...	...	...	...
Youll's passage	...	1	...	...	...	...	1	...	...	...	...

TABLE V.—CONTINUED.

BISHOPWEARMOUTH NORTH DISTRICT.

CASES NOTIFIED.							DEATHS FROM				
Street.	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.	Removed to Hospital	Deaths.	Measles.	Whooping Cough.	Diarrhoea.
Adamson street.....	...	1	...	...	...	...	1	1	...	...	...
Aiskell street.....	...	1	...	...	1	...	1	...	...	...	...
Albert street.....	...	...	...	...	...	...	...	...	...	...	1
Alderson street.....	...	...	...	...	6	...	3	...	...	...	1
Alexandra terrace	...	1	...	...	1	...	2	1	...	...	...
Alfred street.....	...	...	...	...	3	...	3	...	1	...	...
Alliance street	...	...	...	...	1	...	1	...	...	...	...
Ancona street	...	...	...	...	1	...	...	...	...	...	...
Anne street	...	...	...	...	2	...	2	...	1	...	...
Australia street	...	...	...	...	1	...	...	...	...	...	...
Avondale terrace	...	...	...	...	1	...	...	...	...	...	...
Aylmer street	...	...	...	...	4	...	4	...	...	...	...
Ayre's quay road	...	...	...	...	1	...	1	1	1	...	...
Ayre's quay street	...	1	...	...	...	...	1	...	...	...	...
Back Aylmer street	...	...	...	...	1	...	...	1	...	...	1
Back Crescent row	...	...	...	...	...	...	...	...	1	...	...
Back Duke street.....	...	1	...	...	...	...	...	...	...	...	...
Back Elgin street.....	...	1	...	...	...	...	...	1	...	...	...
Back East Cross street.....	...	...	...	...	1	...	1	...	...	...	...
Back Farrington row	...	...	...	...	...	...	...	...	...	...	1
Back Harrison street	...	1	...	...	...	...	...	...	...	...	...
Back Hopper street.....	...	...	...	...	...	...	...	...	1	...	1
Back Sunderland street	...	...	...	...	...	...	...	...	1	...	...
Back William street.....	...	...	...	...	...	...	...	...	...	2	...
Back Wilson street	...	...	...	...	...	...	...	...	1	...	...
Beach street	...	...	...	...	2	...	1	...	...	1	1
Bedford street	...	...	...	...	...	...	...	...	...	1	1
Bell street	...	...	...	...	6	...	4	...	...	...	...
Bennett street	...	...	...	...	...	...	...	...	...	...	1
Bexley street.....	...	...	...	...	...	...	...	...	...	...	1
Booth street	...	1	...	...	...	...	...	...	...	...	...
Brae, The	...	...	...	...	1	...	...	...	...	...	...
Broxbourne terrace	...	1	...	...	...	...	...	...	...	...	...
Brinkburn street	...	...	...	...	1	...	...	...	...	...	...
Brunton terrace	...	...	...	...	1	...	...	...	...	...	...
Bridge crescent.....	...	1	...	...	...	...	...	...	...	...	...
Castle street	...	1	...	...	...	...	...	1	...	...	...
Catherine street	...	...	...	...	1	...	1	...	...	...	1
Catherine street West	...	1	...	...	...	...	1	...	...	...	...
Cecil street	...	2	...	...	...	...	1	1	...	...	...
Central Police Station.....	...	...	...	...	1	...	1	...	...	...	...
Charles street	...	...	...	...	4	...	4	...	2	...	...
Charles street West.....	...	...	...	...	1	...	1	...	...	...	...
Cleveland road	...	...	...	...	3	...	3	...	...	...	...
Chester road	...	...	...	1	2	...	...	1	...	...	...
Chester road West	...	2	...	...	1	...	2	...	...	...	1
Chester street	...	...	...	...	2	...	...	...	...	...	...
Chester street East	...	...	...	...	1	...	...	...	...	1	...
Chester terrace.....	...	...	...	...	1	...	...	...	...	...	...
Church street West	...	1	...	...	1	...	2	1	2	...	2

TABLE V.—CONTINUED.

CASES NOTIFIED.							DEATHS FROM				
Street.	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.	Removed to Hospital	Deaths.	Measles.	Whooping Cough.	Diarrhoea.
Cirencester street.....	...	...	...	...	8	...	5	1	...	...	...
Clanny street.....	...	1	...	...	3	...	1	...	...	1	...
Cleft street.....	...	...	...	...	...	...	...	...	1	...	...
Close street	...	...	...	1	...	...	...	...	...	...	...
Coatesworth street	...	...	...	...	1	...	...	...	...	...	...
Co-operative terrace	...	1	...	...	1	...	...	...	...	...	...
Crescent row	...	...	...	...	2	...	2	...	...	...	...
Croft avenue	...	...	...	...	2	...	...	...	...	...	...
Cromwell street.....	...	1	...	...	4	...	1	...	...	...	...
Cross Green street	...	1	...	...	...	...	1	1	...	...	...
Deptford road	...	...	...	...	2	...	...	...	1	...	...
Deptford terrace	...	...	...	...	3	...	2	...	...	...	...
Diamond hall.....	...	...	...	...	1	...	1	...	...	...	1
Ditchburn terrace.....	...	...	...	...	...	...	...	...	...	...	1
Duke street	...	...	...	...	...	...	...	...	1	...	...
Duncan street	...	...	...	...	...	...	...	...	1	...	...
Dunning street	...	...	...	...	...	...	...	...	1	...	...
Earl street.....	...	1	...	...	...	...	1	...	...	...	...
East Cross street.....	...	1	...	...	1	...	1	1	...	...	1
East Moor road.....	...	...	...	...	2	...	...	...	...	...	...
Eden vale	...	...	...	...	...	...	...	...	...	...	1
Eldon street	...	...	...	...	1	...	...	...	...	...	...
Elgin street	...	...	...	...	3	...	2	...	...	...	...
Exeter street.....	...	...	...	...	2	...	...	...	...	...	...
Farrington row.....	...	2	...	...	1	...	...	...	...	...	...
Fontaine road	...	...	...	...	3	...	...	...	...	...	...
Franklin street.....	...	...	...	...	1	...	1	...	...	...	...
* Frederick terrace.....	...	2	...	1	...	...	5	...	...	...	...
Garden street	...	...	...	...	1	...	...	...	...	...	...
Garrison field	...	...	...	...	2	...	...	...	...	...	...
General Gordon terrace	...	...	...	...	1	1	...	...	...	...	...
General Graham street	...	...	...	...	5	...	...	...	1	...	...
Garfield street	...	1	...	...	...	...	...	...	...	...	...
George street West	...	...	...	...	4	...	1	...	...	...	...
Gibson terrace	...	...	...	...	...	...	...	...	...	...	1
Gilsland street	...	...	...	...	1	...	...	...	...	...	...
Glass street	...	...	...	...	...	...	...	...	1	...	...
Glebe Cleft villas	...	...	...	...	1	...	...	...	...	...	...
Glebe street	...	...	...	...	1	...	...	...	...	...	1
Grace street	...	...	...	...	2	...	...	...	1	...	...
Green street	...	1	...	...	...	...	...	...	...	...	...
Grafton street	...	...	...	...	3	...	1	...	...	...	...
Granville street.....	...	...	...	...	1	...	...	...	...	...	...
Hanover place	...	...	...	...	...	...	...	...	1	...	2
Hedley street	...	1	...	...	4	1	2	...	...	...	1
Henderson road.....	...	...	...	...	...	1	...	...	...	...	...
Hawthorn street	...	1	...	1	...	...	...	...	...	...	...
High street West	...	...	...	...	3	...	1	...	...	...	...
Hillfield terrace	...	...	...	...	3	...	...	...	...	...	...
Hope street	...	1	...	...	...	...	1	...	2	1	1
Hopper street	...	...	...	...	2	...	...	...	...	...	...
Howarth street South.....	...	...	...	...	1	...	...	...	...	...	...

* By an error seven cases of Continued Fever have been shown on the Map in Frederick Terrace instead of one.

TABLE V.—CONTINUED.

Street.	CASES NOTIFIED.							DEATHS FROM			
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.	Removed to Hospital	Deaths.	Measles.	Whooping Cough.	Diarrhoea.
Hume street	...	1	...	...	...	...	...	...	1	...	...
Hylton road	...	...	...	...	...	...	...	...	...	...	1
Hylton street.....	...	...	...	...	5	...	1	...	...	...	...
Infirmery row	...	...	...	...	1	...	1	...	...	...	...
Jobling street	...	1	...	...	...	...	...	...	...	...	...
John Candlish road	...	...	...	...	2	...	...	...	...	...	...
Johnson street	...	...	...	...	1	...	1	...	1	...	...
John street West	...	...	...	...	2	...	2	...	...	...	1
Kendal street	...	...	...	...	1	...	...	...	...	...	...
Kingsley street.....	...	...	...	...	...	...	...	...	1	...	...
King's road	...	...	...	...	1	...	...	...	...	...	...
King's place ..	...	...	...	...	3	...	2	...	...	...	...
Knoll, The	...	...	...	...	1	...	...	...	...	...	...
Lambton street.....	...	...	...	...	1	...	...	...	...	1	...
Landsale buildings	...	3	...	...	1	...	2	...	...	...	1
Lisburn terrace.....	...	1	...	...	1	...	1	...	...	...	...
Lister street .	...	2	...	...	...	1	2	...	...	...	1
Livingston road.....	...	...	...	...	3	...	...	...	...	...	2
Low row.....	...	...	...	...	1	...	1	...	...	...	...
Hat & Feather yard, Low row	...	1	...	...	...	...	1	...	...	...	...
Lumley street	...	...	...	...	3	1	2	...	...	...	...
Maple street	...	1	...	...	1	1	...	...	...	...	...
Margaret street.....	...	...	...	...	...	1	1	...	...	...	...
Margaret Alice street	...	...	...	...	...	...	...	...	...	...	1
Marlborough street	...	...	...	1	...	...	...	...	...	...	...
Milburn street	...	1	...	7	4	...	11	1	3	...	...
Mill street	...	1	...	...	1	...	2	...	...	...	...
Moor street	...	...	...	...	1	...	...	...	...	...	...
Mortimer street	...	1	...	...	1	...	1	...	...	...	...
Mount pleasant	...	...	...	...	1	...	...	...	...	...	...
Napier street.....	...	...	...	...	...	1	...	...	...	...	...
Neville street.....	...	...	...	...	2	...	1	...	...	...	...
North Ravensworth street...	...	...	...	...	3	...	...	...	...	...	1
Number's garth.....	...	...	...	...	...	...	...	...	2	1	...
Ogden street	...	...	...	...	3	...	...	...	...	...	...
Onslow street	...	...	...	...	1	1	...	1	...	...	...
Oswald street.....	...	...	...	...	6	...	5	...	...	...	...
Palmer street	...	...	...	...	...	...	...	...	...	...	1
Paxton terrace	...	...	...	...	2	...	1	...	...	...	...
Peacock street	...	...	...	...	...	...	...	...	...	...	2
Peacock street West	...	2	...	...	3	...	4	1	...	...	...
Pensher street	...	1	...	...	...	...	1	...	...	2	...
Pickard street	...	...	...	...	1	...	...	...	...	...	...
Picton street.....	...	...	...	...	1	...	...	...	...	...	...
Plantation road.....	...	...	...	...	...	...	...	...	...	...	1
Potts street	...	3	...	...	4	...	1	1	...	...	...
Priestley crescent.....	...	...	...	...	1	...	...	...	...	...	...
Queen street West	...	...	...	...	...	...	...	...	2	...	...
Raby street	...	...	...	...	3	...	1	...	...	...	...
Railway row	...	...	...	...	1	...	1	...	...	...	...
Rainton street	...	...	...	...	2	...	...	...	...	1	...
Ravensworth street	...	...	...	1	2	...	...	...	...	...	1

TABLE V.—CONTINUED.

[illegible]

TABLE V.—CONTINUED.

Street.	CASES NOTIFIED.						DEATHS FROM				
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.	Removed to Hospital	Deaths.	Measles.	Whooping Cough.	Diarrhoea.
Finchale terrace ..	...	...	...	...	2	...	...	...	1	...	...
Ford street	1	2	...	...	1	...	2	...	1	...	...
Fowler terrace	...	2	...	...	1	...	2	...	...	...	1
Frederick street	...	...	...	...	1	...	...	...	...	...	...
Green, The	...	1	...	...	...	...	1	...	...	...	...
Grey terrace	...	...	...	...	1	...	1	...	...	...	2
Guildford street	...	...	...	...	1	...	...	...	...	...	...
Harrogate street	...	2	...	...	2	...	2	1	...	...	...
Hastings street.....	...	...	...	...	6	...	6	...	...	...	...
Hedworth street ..	...	1	...	...	...	...	...	...	2	...	...
Hendon road	...	...	...	...	1	...	1	...	1	...	...
Hendon street	...	2	...	...	1	...	...	...	...	...	3
Hendon Valley road..	...	1	...	...	4	1	2	1	...	...	...
Henry street	...	4	...	2	4	...	6	2	...	...	...
Henry street East	...	4	...	...	1	...	5	...	1	2	...
Herrington street.....	...	...	...	...	5	...	3	...	...	...	...
High street West.....	...	...	...	...	...	...	...	...	...	...	1
Holmside	...	...	...	...	1	...	1	...	...	...	...
Hudson road	...	1	...	...	1	...	1	1	...	...	...
Humbledon view	...	1	...	...	1	...	...	...	...	...	...
Hutchinson terrace	...	...	...	...	...	...	...	...	2	...	...
Infirmery, The	...	...	...	...	2	...	2	...	...	...	...
Kensington terrace	...	...	...	...	2	...	...	...	...	...	...
King street	...	...	...	...	...	...	...	...	...	...	1
Lawrence street	...	...	...	...	4	...	2	...	1	...	...
Lilburn street	...	2	...	...	...	...	...	...	...	...	...
Linden street	...	...	...	...	1	...	...	...	...	...	...
Lodge terrace	...	1	...	...	...	...	...	1	...	...	1
Lorne terrace.....	...	1	...	...	...	...	...	...	...	...	...
Mabel terrace	...	...	...	...	...	...	...	...	1	...	1
Mainsforth terrace	...	2	...	...	1	1	...	1	1	1	2
Mainsforth terrace West.....	...	1	...	...	2	...	...	...	...	...	...
Manor place	...	...	...	...	1	...	1	...	...	...	...
Marshall street.....	...	1	...	...	...	...	...	1	...	...	...
Meaburn street.....	...	...	...	...	...	1	...	...	...	...	...
Moor street	...	...	...	...	...	...	...	...	...	...	2
Moor terrace.....	...	...	...	...	2	...	...	...	...	...	...
Mordey street	...	1	...	...	1	...	1	1	...	...	...
Mowbray road	...	...	...	...	3	...	3	1	...	...	...
Mulgrave street	...	1	...	...	...	...	1	...	...	...	...
New Durham road	...	...	...	...	...	...	...	...	...	...	1
Nile street.....	...	1	...	...	1	...	1	1	1	1	1
North Durham street	...	...	...	...	...	...	...	...	...	2	...
Northcote avenue	...	1	...	...	...	...	...	...	...	...	...
Norfolk street	...	1	...	...	...	...	...	...	...	...	...
Norman street	...	1	...	1	11	...	3	1	1	...	1
Northumberland street	...	...	...	...	4	...	...	...	...	...	...
Oaks, The	...	...	...	...	1	...	...	...	...	...	...
Ocean road.....	...	...	...	...	...	...	...	...	...	1	...
Old Mill road.....	...	...	...	...	2	...	1	...	...	...	...
Olive street	...	...	...	...	1	...	...	...	...	...	...
Page street	...	1	...	...	4	...	2	1	1	...	...

TABLE V.—CONTINUED.

CASES NOTIFIED.

DEATHS FROM

Street.	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.	Removed to Hospital	Deaths.	Measles.	Whooping Cough.	Diarrhoea.
Parade, The	...	1	...	...	5	...	3	...	1	...	...
Pemberton street	...	...	...	...	...	...	...	...	...	1	1
Railway street	...	1	...	...	...	...	...	...	...	...	...
Regent terrace	...	...	...	...	2	...	...	...	...	...	...
Ridley terrace	...	...	...	...	1	...	...	...	1	...	...
Robinson street	...	...	...	...	1	...	...	...	...	...	1
Robinson terrace	...	2	...	...	...	...	1	...	...	...	...
Rosalie terrace	...	...	...	...	...	1	...	...	...	...	...
Rock terrace	...	...	...	...	2	...	...	...	...	...	...
St. Bede's terrace	...	...	...	...	1	...	...	...	...	...	...
St. Leonard street	...	...	...	...	2	...	...	...	...	...	...
St. George's square	...	...	...	1	...	...	...	...	...	...	...
Salem hill	...	...	...	...	1	...	1	...	...	...	...
Salem hill South	...	...	...	...	1	...	...	...	...	...	...
Sans street South	...	1	...	...	...	...	1	1	...	...	...
Sea Bank cottages	...	1	...	...	...	...	1	...	...	...	...
Southgate	...	...	...	...	...	...	...	...	1	...	...
South street	...	...	...	...	1	...	1	...	...	1	...
South Durham street	...	1	...	...	1	...	1	1	1	1	1
South Moor street	...	...	...	...	...	...	...	...	...	1	...
Spelter Works road	...	...	...	...	1	...	1	...	...	...	...
Sussex street	...	...	...	...	...	...	...	...	...	1	...
Tatham street	...	2	...	...	...	...	...	...	...	...	...
Tees street	...	3	...	...	1	...	2	1	...	...	2
Thompson street	...	5	...	1	3	...	5	1	...	...	...
Thornhill	...	...	...	...	1	...	...	...	...	...	...
Thornhill crescent	...	...	...	...	1	...	...	...	...	...	...
Thornhill gardens	...	...	...	...	1	...	1	...	...	...	...
Thornhill terrace	...	...	...	...	3	...	...	...	...	...	...
Toward terrace	...	...	...	...	1	...	...	...	...	...	...
Tower street	...	1	...	...	...	...	...	...	...	...	1
Tunstall road	...	...	...	...	...	...	...	...	...	...	1
Tweed street	...	2	...	...	...	...	2	...	...	...	...
Tyne street	...	...	...	...	...	...	...	...	1	...	...
Upper Sans street	...	...	...	...	2	...	1	...	...	1	...
Villette mount	...	...	...	...	1	...	...	1	...	...	...
Villette Brook street	...	...	...	...	...	...	...	...	...	...	1
Villiers street	...	1	...	...	...	...	...	...	...	...	...
Villiers street South	...	...	...	...	1	...	1	...	...	...	...
Wall street	...	...	...	...	...	...	...	...	...	...	1
Walworth street	...	2	...	...	...	...	2	...	...	...	...
Ward street	...	...	...	...	5	...	...	...	2	1	1
Ward terrace	...	...	...	...	1	...	1	...	...	...	...
Wear street	...	2	...	...	4	...	6	1	...	1	2
West street	...	...	...	...	...	...	...	...	...	...	1
Whitehouse road	...	1	...	...	...	...	...	...	...	...	...
Willows, The	...	2	...	...	...	...	...	...	...	...	...
Winchester terrace	...	1	...	...	...	...	...	...	...	...	...
Woodbine street	...	3	...	...	2	...	3	1	...	...	...
Woodbine terrace	...	...	...	1	...	...	1	...	...	...	...
Woodside	...	...	...	...	1	...	...	...	...	...	...
Zion street	...	...	...	...	1	...	...	...	...	1	1

TABLE V.--CONTINUED.

MONKWEARMOUTH DISTRICT.

Street.	CASES NOTIFIED.							DEATHS FROM			
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.	Removed to Hospital	Deaths.	Measles.	Whooping Cough.	Diarrhoea.
Albany street.....	...	...	...	...	1	...	1	...	1	...	...
Back Brooke street	...	...	...	...	2	...	...	...	...	...	...
Back Stobart street	...	...	...	...	2	...	...	...	...	...	...
Back Victoria terrace	...	...	...	...	...	...	...	...	...	...	1
Back Wear street.....	...	...	...	...	...	...	...	...	1	...	...
Back Wilson street	...	...	...	...	...	...	...	...	...	...	2
Barclay street	...	1	...	...	...	...	...	...	...	1	...
Barrington street	...	2	...	...	2	...	2	1	2	1	...
Beatrice street	...	...	...	...	1	...	...	...	...	...	...
Blue Bell yard	...	...	...	...	...	...	...	...	1	...	...
Bond street	...	2	...	...	3	...	...	1	...	...	...
Bonner's field.....	...	...	...	...	...	1	...	...	...	...	...
Brandling street	...	...	...	...	1	...	1	...	...	...	...
Bright street	...	2	...	...	1	...	1	1	...	...	...
Brooke street.....	...	2	...	...	4	...	4	1	...	...	...
Byron street	...	1	...	...	...	...	...	...	1	...	...
Cage hill.....	...	...	...	...	5	...	5	...	1	...	...
Calver street	...	...	...	...	2	...	1	...	...	...	...
Causeway, The	...	1	...	...	...	...	...	...	...	...	...
Charles street	...	...	...	...	3	...	1	...	...	...	...
Chilton street	...	...	...	...	1	...	1	...	...	1	...
Church street	...	...	...	...	2	...	1	...	...	...	...
Cooper street.....	...	...	...	1	...	...	...	...	...	...	...
Colliery square	...	...	...	...	4	...	...	...	...	...	...
Dame Dorothy street	...	1	...	...	3	...	...	...	...	...	1
Devonshire street	...	4	...	...	1	...	2	1	...	...	...
Dixon square.....	...	1	...	...	...	...	...	...	...	...	...
Dock street	...	2	...	2	3	...	1	1	1	...	...
Dock street East	...	2	...	...	...	...	1	1	2	1	...
Duke street	...	1	...	1	3	1	...	...	...	...	...
Dundas street	...	1	...	1	1	1	1	...	1	...	...
Eglinton street	...	2	...	...	2	...	...	...	...	...	...
Ellerslie terrace.....	...	...	...	...	1	1	...	1	...	...	...
Featherstone street	...	2	...	...	...	...	...	1	...	...	...
Finsbury street.....	...	1	...	...	...	...	...	...	1	...	...
Forster street	...	...	...	...	8	...	2	2	...	...	...
Francis street	...	...	...	1	...	...	...	1	...	...	...
Fulwell road	...	3	...	...	1	...	1	1	...	1	1
Gladstone street	...	2	...	...	...	...	2	1	1	1	1
Gosforth street	...	1	...	...	3	...	3	1	...	...	...
Hallgarth square	...	1	...	...	...	...	...	...	...	...	...
Hamilton street	...	1	...	1	...	...	...	1	...	...	...
Hardwicke street	...	1	...	...	...	...	...	1	...	1	...
Hartington street.....	...	...	...	...	2	...	...	...	...	...	...
Hood street	...	...	...	...	1	...	1	...	...	2	...
Howick place.....	...	1	...	...	...	...	...	...	...	...	...
Howick street	...	...	...	...	...	...	...	...	1	...	...
Horatio street	...	...	...	1	...	...	...	...	...	...	...
Huddleston street.....	...	...	...	1	...	...	...	...	...	...	...
Joannah street	...	...	...	...	1	...	...	...	...	...	...

TABLE V.—CONTINUED.

Street.	CASES NOTIFIED.							DEATHS FROM			
	Smallpox.	Enteric Fever.	Typhus Fever.	Continued Fever.	Scarlet Fever.	Diphtheria.	Removed to Hospital	Deaths.	Measles.	Whooping Cough.	Diarrhoea.
Lawson's court	...	...	...	...	...	...	...	...	2	...	...
Liddell terrace	...	...	...	1	...	...	1	1	...	...	...
Look-out hill.....	...	...	...	...	1	...	1	...	...	...	...
Long row	...	3	...	...	5	...	...	...	...	1	...
Mill row.....	...	1	...	...	...	...	1	...	...	...	...
New Brandling street	...	...	...	...	3	...	...	...	...	...	...
Normanby street	...	2	...	2	.	...	1	...	2	...	...
North Bridge street.....	...	...	...	...	1	...	...	...	...	...	...
Osborne street	...	...	...	...	1	...	...	1	1	...	...
Pilgrim street	...	...	...	...	...	...	...	...	1	...	...
Portobello lane	...	...	...	...	...	...	...	...	1	...	...
Rendlesham street	...	...	...	...	1	...	...	...	...	...	...
Richmond street	...	2	...	...	1	...	1	...	...	...	...
Ripon street	...	2	...	...	2	...	...	1	...	...	...
Roker avenue	...	2	...	...	5	...	...	...	1	...	...
Ross street.....	...	2	...	...	2	...	2	...	...	...	...
Rothsay street	...	1	...	1	3	...	1	1	...	...	...
Side Cliff.....	...	...	...	...	1	...	...	...	...	...	...
Society lane	...	1	...	...	...	...	...	...	...	1	...
Stansfield street	...	...	...	...	3	...	...	...	...	...	...
Stobart street	...	...	...	...	3	...	...	...	...	...	...
Thomas street North	...	...	...	...	...	...	...	...	...	...	1
Victor street	...	6	...	4	7	1	6	1	...	2	...
Wardell terrace.....	...	...	...	...	...	...	...	...	...	1	...
Wayman street.....	...	...	...	...	10	...	2	3	...	1	...
Whickham street	...	1	...	...	...	...	...	...	...	1	...
Whitburn street	...	2	...	...	...	...	2	...	...	2	1
Wilson street	...	...	...	...	6	...	...	...	...	...	...
Yorke street	...	...	...	...	...	...	...	...	...	...	1
Zetland street	...	1	...	..	4	...	...	2	...	...	...

TABLE VI.

STREET LIST, showing where cases of Enteric and Continued Fever occurred during the last four years.

SUNDERLAND (SUB-DISTRICT).

Street.	1893.		1894.		1895.		1896.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Back High street East	...	...	1	...	...	...	...	...
Back North Moor street	...	...	1	...	...	...	...	...
Back Nesham square.....	1	...	...	...	...	...	...	...
Bank street	1	...	...	...	...	...	1	...
Barracks, The	5	...	...	...	16	...	...	...
Barrack street.....	...	...	...	...	2	...	...	...
Blue Anchor yard	...	...	1	...	...	...	...	...
Bowe's quay.....	1	...	...	...	...	...	...	...
Brewery yard	...	...	1	...	...	...	...	...
Bull open	1	...	...	...	1	...	...	...
Burdon lane.....	1	...	...	...	...	...	...	...
Burleigh street	7	...	5	2	6	...	3	...
Carr's yard	1	2	...	...	...	...	...	...
Chapel street	...	...	...	...	5	...	1	...
Church street	...	...	2	...	2	...	1	...
Church walk	3	...	...	...	...	...	...	...
Commissioners' quay	...	...	...	...	1	...	...	...
Coronation street	4	...	...	...	...	...	...	...
Covent Garden street.....	5	...	3	...	2	...	...	...
Drury lane	...	...	5	...	1	...	...	...
Dunn's passage	1	1	...	...	...	...	...	...
Ferry landing	...	...	...	...	1	...	...	...
Fitter's row	1	...	...	...	1	...	...	...
Flag lane	2	...	1	...	...	...	1	...
George street	3	...	3	1	3	...	1	1
Golden alley.....	...	...	2	1	1	...	...	...
Grey street	...	...	...	...	1	1	...	...
Hartley street	3	...	...	...	...	...	2	...
Hat case	...	...	1	...	1	...	...	...
Havelock gallery.....	...	...	1	...	...	...	...	...
Havelock street	3	...	...	...	...	1	1	...
High street East.....	14	...	2	...	...	1	5	...
Hodgskin street	...	...	1	...	...	...	...	...
Industrial School, Thomas street.....	...	1	...	...	...	...	...	...
James Williams street	1	1	...	...	...	...	1	...
Lombard street	1	...	...	1	1	...	...	...
Long bank	...	...	1	...	...	2	...	...
Low quay.....	...	...	3	...	...	...	1	...
Low street	2	...	1	...	...	...	1	...
Lower Dean's yard.....	...	...	...	...	...	...	1	...
Lucknow street	1	...	...	...	...	...	...	...
Maling's rigg	1	...	...	...	4	...	...	1
Moorgate street	4	...	3	...	1	...	1	...
Nesham square	1	...	1	...	1	...	2	...
New Grey street.....	3	...	5	...	12	...	...	...
North Moor street	1	...	1	1	3	...	3	...
Northumberland place	2	...	...	...	...	...	...	...
Outram street	1	...	...	...	2	...	...	...

TABLE VI.—Continued.

Streets.	1893.		1894.		1895.		1896.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Palin's passage	1	...	1	...	...	...	...	...
Pottery bank	...	...	1	1	1	...	...	...
Prospect row	...	...	4	...	...	...	...	...
Queen street	3	...	...	...	...	...	...	...
Silver street.....	4	...	1	1	14	3	...	...
Spring Garden lane	3	...	1	1	1	...	...	...
Stamp's lane	...	...	...	...	...	...	1	...
Stafford street.....	...	...	...	...	1	...	...	...
Stone yard	...	...	1	...	...	...	...	...
Thomas street.....	1	...	4	..	3	...	...	...
Thornhill gallery.....	2	...	...	...	...	...	...	...
Trafalgar square.....	...	...	...	..	...	...	1	...
Trinity place	3	...	...	...	...	...	...	...
Union lane	...	...	...	...	1	...	...	...
Vine street	4	1	9	...	3	...	3	...
Walton place	2	...	...	...	5	...	...	..
Warren street	3	...	...	...	1	...	...	...
Youll's passage	...	...	...	...	...	...	1	...

BISHOPWEARMOUTH NORTH DISTRICT.

Streets.	1893.		1894.		1895.		1896.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Adamson street	...	...	...	...	...	...	1	...
Ailsbury street.....	1	1	...	...	...	...	...	...
Aiskell street	1	...	...	...	1	...	1	...
Albert street	...	...	...	1	1	...	...	...
Alderson street	1	...	5	...	1	...	...	...
Alexandra terrace	...	1	1	...	...	...	1	...
Alfred street	1	...	...	...	1	...	...	...
Alliance street.....	1	...	...	...	...	...	...	...
Ancona street	...	...	...	1	...	...	...	...
Anne street	1	..	...	...	...	...	...	...
Armitage street	1	...	3	...	...	...	...	...
Australia street	..	1	...	...	1	...	...	...
Aylmer street	1	...	2	...	...	...	...	...
Ayre's Quay road	...	1	...	1	1	..	...	...
Ayre's Quay street	2	1	2	2	...	1	1	...
Back Crescent row.....	..	...	1	...	1	...	...	...
Back Duke street	...	...	...	...	..	...	1	...
Back Farrington row.....	...	2	...	...	1	...	...	...
Back Harrison street.....	...	1	...	...	1	...	1	...
Back Hedley street.....	...	...	1	...	...	...	...	...
Back Hopper street	5	1	2	...	...	...	..	...
Back Mount Pleasant	...	...	1	...	...	...	...	...
Back Sydenham place	...	...	...	...	1	...	...	...

TABLE VI.—CONTINUED.

Street.	1893.		1894.		1895.		1896.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Back Wilson street	...	...	1	...	...	...	...	...
Barlow court	...	1	...	...	...	...	...	...
Beach street.....	...	...	1	...	1	1	...	...
Bedford square	...	...	...	...	1	...	...	...
Bedford street.....	1	...	...	...	...	...	...	...
Bell street.....	...	1	1	...	4	1	...	...
Bennett street.....	2	1	...	...	...	...	...	...
Bexley street	...	...	...	...	1	...	...	...
Booth street.....	...	...	...	...	...	...	1	...
Brady street.....	...	1	...	...	1	...	...	...
Bridge crescent	...	...	...	...	...	...	1	...
Broxbourne terrace	...	...	...	...	...	...	1	...
Burnaby street	1	...	...	...	...	...	...	...
Carol street	1	1	1	...	...	...	...	...
Carter street	...	...	...	...	1	...	...	...
Castle street.....	1	2	...	...	...	...	1	...
Catherine street, Millfield.....	...	1	2	...	...	...	...	...
Catherine street, Deptford	...	...	...	...	1	...	1	...
Cecil street	1	...	...	...	1	...	2	...
Charles street	3	1	2	...	3	...	...	...
Chepstow street	...	...	2	...	...	...	...	...
Chester road West	...	...	...	...	...	...	1	...
Chester road	2	...	...	...	...	...	...	1
Chester street West	...	...	...	...	...	...	2	...
Chester terrace	...	2	2	...	1	...	...	...
Church street West	2	1	1	...	...	1	1	...
Cirencester street	2	...	...	1	2	...	...	...
Clanny street	...	2	4	...	1	...	1	...
Clazey terrace	...	...	...	1	...	2	...	...
Cleft street	2	...	...	...	1	...	...	...
Cleveland road.....	...	...	2	...	...	...	...	...
Close street	...	...	...	1	1	...	...	1
Coatsworth street	1	...	...	1	...	...	...	...
Collier row	...	2	2	...	1	...	...	...
Co-operative terrace ..	...	...	...	...	...	...	1	...
Copperas bank.....	...	...	...	1	...	...	...	...
Cornwall street	1	...	...	...	...	...	...	...
Crescent row	9	2	4	2	1	...	...	...
Cromwell street	2	...	1	...	...	...	1	...
Cross Farrington row.....	1	...	...	...	1	...	...	...
Cross Green street	...	...	...	...	...	...	1	1
Cross Queen street.....	1	...	...	...	1	...	...	...
Cumberland street	10	...	...	1	...	...	...	...
Dene street	1	...	...	...	...	...	...	...
Deptford road	...	1	...	...	1	...	...	...
Deptford terrace.....	1	...	...	...	2	...	...	...
Diamond hall, Look-out.....	...	...	1	...	...	...	...	...
Dock alley	...	...	...	...	1	...	...	...
Dock terrace	...	...	1	...	...	...	...	...
Dove street	1	...	...	...	...	...	...	...
Dryborough street	...	1	...	...	...	...	...	...
Duncan street.....	...	...	...	...	1	...	...	...

TABLE VI.—Continued.

Street.	1893.		1894.		1895.		1896.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Dun Cow street	2	...	1	...	1	...	...	...
Dunning street	2	...	1	...	...	1	...	...
Earl street	...	...	...	...	...	...	1	...
East Cross street.....	4	1	2	...	1	..	1	...
Eden street West	2	...	...	...	1	...	...	...
Edwin street	...	...	...	...	1	...	...	...
Eldon street.....	...	...	...	...	1	...	...	...
Elgin street	4	...	2	...	...	...	...	...
Elgin street, Back	...	...	...	..	...	...	1	...
Enderby road	1	...	...	...	...	...	...	...
Exeter street	...	...	3	...	1	1	...	...
Exhibition terrace	...	...	3	...	...	...	...	...
Farrington row	1	1	3	2	4	2	2	...
Franklin street	...	...	...	...	1	...	...	...
Frederick terrace	1	..	...	...	...	3	2	1
Garden street	2	...	...	1	1	1	...	...
Garfield street.....	1	...	...	...	...	...	1	...
General Gordon terrace.....	1	...	...	...	...	...	...	...
George street	2	1	...	...	1	...	...	...
Gerald street	3	...	1	1	...	...	...	..
Gill Bridge avenue.....	2	2	6	...	1	...	...	...
Gill road	2	...	...	..	...	...	...	...
Glebe Cleft villas	3	...	1	...	1	...	...	...
Glebe street.....	...	...	...	...	1	...	...	...
Grace street.....	4	...	1	...	1	...	...	...
Grace terrace	1	...	...	...	...	...	...	...
Grafton street.....	1	1	1	1	...	...	..	..
Granville street	...	1	1	...	1	1	...	...
Green Dragon Inn	...	...	1	...	...	...	...	..
Green street.....	...	...	...	...	1	...	1	...
Hanover place.....	3	...	2	1	2	...	...	...
Harlow street	...	...	3	..	...	...	...	...
Harper terrace	1	...	...	1	...	...	...	...
Harrison street	2	1	1	1	1	...	...	...
Havannah street.....	...	1	...	...	...	...	...	...
Hawthorn street.....	...	...	...	...	...	...	1	...
Hedley street	2	...	3	...	4	...	1	...
Hetton street	...	1	1	...	...	...	...	...
High Barnes terrace	1	...	...	...	...	...	...	...
High street West	4	2	1	..	1	...	...	..
Hillfield	...	...	...	...	...	1	...	...
Hillfield steps	1	...	...	..	...	...	...	...
Hillfield terrace	...	..	...	1	...	...	...	...
Hind street	...	...	3	...	1	...	...	...
Hope street	4	1	3	...	3	...	1	...
Hopper street	8	1	...	...	1	1	...	...
Hort street	2	...	...	1	...	...	...	...
Houghton street.....	2	1	1	...	1	...	...	...
Howarth street South	...	...	...	...	1	...	...	...
Hume street	1	...	1	...	1	...	1	...
Hylton road.....	2	...	...	...	...	...	...	...
Hylton street	1	...	1	...	...	...	...	...

TABLE VI.—Continued.

Street.	1893.		1894.		1895.		1896.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Infirmary row	...	...	1	..	...	...	..	...
James street	...	...	1	...	...	...	...	...
Jobling street	1	...	1	1	...	..	1	...
John Candlish road	...	...	3	...	1	...	...	...
John street West	4	1	2	1	1	...	...	...
Johnson street	3	...	...	...	1	...	...	...
Kendal street	1	...	...	...	...	...	...	...
Kingsley street	...	...	1	...	...	...	..	...
King's road	...	...	...	..	1	...	...	...
Lambton street	1	...	4	...	...	...	...	...
Landsale buildings	...	...	1	...	...	...	3	...
Lime street	...	...	...	1	1	...	...	...
Lincoln street	...	1	...	...	1	1	...	...
Lisborn terrace	...	1	...	1	1	...	1	...
Lister street	...	...	...	1	...	...	2	...
Low row	2	1	...	...	...	...	...	...
Low row, Hat and Feather yard	...	...	...	...	...	...	1	...
Lumley street	2	...	...	...	...	...	...	...
Maple street	...	...	...	1	2	...	1	...
Margaret street	...	...	1	...	...	...	...	...
Marlborough street	3	...	...	1	...	...	...	1
Martin terrace	...	...	1	...	...	...	...	...
Matamba terrace	2	...	2	...	...	...	...	...
Merle terrace	...	...	...	...	...	1	...	...
Milburn street	...	...	3	...	...	...	1	7
Miller street	...	...	1	...	...	...	...	...
Mill cottage	...	...	...	...	1	..	...	...
Mill street	...	...	...	...	...	...	1	...
Moor street	...	1	...	...	...	...	...	...
Mortimer street	1	...	5	...	1	...	1	...
Mount Pleasant	...	...	1	...	2	...	..	...
Naylor street	...	1	...	...	..	...	...	...
Neville street	4	...	...	...	1	...	...	...
North Hedley street	1	..	...	...	...	...	...	...
North Milburn street	1	...	4	...	..	...	...	...
North Rutland street	...	...	1	...	...	...	...	...
Number's garth	...	1	...	...	...	...	...	...
Oates street	...	...	2	1	...	...	...	...
Offerton street	...	...	1	1	...	...	...	...
Ogden street	1	...	1	..	...	...	...	...
Pallion road	...	...	...	...	...	1	...	...
Old Garrison	1	...	...	...	...	...	...	...
Palmer street	1	...	4	...	...	...	...	...
Peacock street	1	...	3	3	2	...	...	...
Peacock street West	1	...	...	1	2	..	2	...
Pensher street	2	...	1	...	...	...	1	...
Percival street	...	...	...	..	1	...	...	...
Pickard street	2	...	...	...	1	...	...	...
Picton street	1	...	2	1	...	1	...	...
Potts street	...	...	4	...	5	...	3	...
Priestly crescent	...	...	1	...	...	...	...	...

TABLE VI.—Continued.

Street.	1893.		1894.		1895.		1896.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Queen street West	1	1	2	...	4	...	...	...
Queen street, Factory yard	1	...	...	...	...	...	...	...
Raby street	2	...	1	...	...	...	...	...
Rainton street	...	...	1	...	...	...	...	...
Ravensworth street	...	1	1	...	2	...	...	1
Reginald street	1	...	...	...	...	...	...	...
Retreat, The	...	...	...	...	...	...	1	...
Ropery road	2	1	1	...	1	2	...	...
Rosannah street	...	...	...	...	...	...	...	1
Rosedale street	1	1	2	...	1	...	...	...
Rosslyn street	...	...	...	...	1	...	...	...
Royalty, The ..	...	...	1	...	1	1	...	...
Rutland street	...	1	1	...	...	...	1	1
Rutland terrace	...	...	...	...	3	...	...	...
St. Cuthbert's terrace	...	...	...	1	1	...	...	...
St. Luke's road	1	...	2	...	...	...	1	...
St. Luke's terrace	4	...	...	...	1	...	...	...
St. Mark's buildings	1	...	...	...	...	...	...	...
St. Mark's road	1	...	1	...	1	...	...	1
St. Mark's terrace	...	...	1	1	...	...	...	...
St. Michael's place	...	...	1	...	1	...	...	...
Shakespeare terrace	...	...	...	...	...	...	1	...
Sheridan street	...	...	...	1	1	...	...	...
Silksworth row	...	...	2	...	...	...	...	...
Simpson street	2	...	1	1	...	...	1	...
Slater street	...	...	...	...	...	...	1	...
Sorley street	...	...	...	...	3	...	...	...
South Johnson street	2	1	5	...	2	...	...	...
Spark terrace	...	1	...	...	...	...	...	...
Stanhope street	...	...	...	...	...	...	...	1
Stanley street	2	1	...	...	2	...	...	...
Stratfield street	...	...	1	...	...	1	...	...
Sunderland street	3	...	3	...	1	...	...	...
Swan's court	1	...	2	...	...	...	...	...
Swinbank street	...	...	4	...	...	...	...	...
Sydenham place	1	...	...	...	...	...	...	...
Teb street	...	...	1	...	...	...	...	1
Thornton place	1	...	...	...	...	...	...	...
Trewhitt's crescent	...	...	2	...	...	...	...	...
Trimdon street	2	...	2	...	5	2	...	...
Trimdon street West	...	...	2	...	4	1	1	...
Ventnor terrace	1	...	1	...	...	...	...	...
Vicarage terrace	...	...	1	...	...	...	...	...
Victoria buildings	...	...	1	...	1	...	...	...
Walker street	...	...	1	...	1	...	...	...
Washington street	...	...	1	...	...	...	1	1
Wellington lane	...	2	2	...	1	2	1	...
Waterworks road	1	...	1	...	1	...	...	...
Water street	1	1	1	...	...	...	1	1
Watson's lane	1	...	1	...	1	1	...	...
Watson street	...	...	...	...	1	...	...	...
Well street	...	...	...	...	1	2	...	...

TABLE VI.—Continued.

Street.	1893.		1894.		1895.		1896.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Westbourne road	3	...	...	...	1	...	1	...
West Moor road	3	...	...	...	...	...	...	...
Westbury street	2	...	...	...	2	...	...	...
West Wear street	1	...	...	...	...	...	1	...
Wharnccliffe street	...	...	1	...	...	...	...	...
White house, Pallion	...	...	...	...	1	...	...	...
Williams street	4	...	6	...	2	1	4	...
William street	3	...	1	...	...	1	...	...
Wilfred street	...	...	...	...	...	...	1	...
Willow Pond terrace	...	...	...	...	1	...	...	...
Wilson street	1	1	1	...	...	1	1	...
Wolsely street	...	...	...	...	...	...	1	...
Woodbine terrace, Pallion.....	...	...	...	...	...	...	1	...
Workhouse	9	...	7	...	...	...	...	...

BISHOPWEARMOUTH SOUTH DISTRICT.

Street.	1893.		1894.		1895.		1896.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Addison street.....	2	...	...	...	19	...	1	1
Addison street East	3	...	1	...	16	...	...	...
Adelaide place.....	2	...	...	...	1	...	...	...
Albany terrace	...	...	...	...	5	...	...	...
Amberley street	...	...	...	...	...	...	1	...
Amberley street South	...	...	1	...	4	...	...	...
Ann street	1	...	1	...	...	...	1	...
Argyle square	1	...	...	...	...	...	...	...
Ashbrooke mount	...	...	...	...	...	...	1	...
Ashmore street	...	...	1	...	...	...	...	...
Athol road	6	...	1	...	5	1	...	...
Avenue, The	...	...	...	...	...	...	1	...
Avon street	...	...	...	...	1	...	...	...
Azalea terrace North.. ..	...	...	1	...	...	...	...	...
Azalea avenue.....	...	...	...	...	...	...	1	...
Back Coronation street	...	...	...	...	...	...	1	...
Back Tavistock place.....	...	...	...	...	...	...	1	...
Bambro' street.....	...	...	1	...	...	...	...	...
Beechwood street	...	...	1	...	...	...	...	...
Belle Vue crescent	...	...	...	...	1	...	...	...
Belle Vue park	...	...	...	...	1	...	1	...
Bishopton street	1	...	...	...	...	...	...	...
Blandford street	...	...	1	...	...	...	...	...
Borough road	1	...	1	...	2	...	1	...
Bramwell street	8	...	...	...	20	...	1	...
Briary Vale road.....	...	...	...	...	1	...	...	...

TABLE VI.—Continued.

Street.	1893.		1894.		1895.		1896.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Brougham street.....	8	...	5	...	3	...	4	...
Burlington road	2	...	...	...	...	...	1	...
Burn terrace	...	...	...	...	2	...	...	...
Cairo street	1	...	2	...	1	...	...	...
Canon Cockin street	...	...	...	...	1	...	...	...
Carlyon street	...	...	...	...	1	...	...	...
Carter street	4	...	1	...	...	...	...	...
Churchill street	1	...	...	...	...	...	2	...
Christopher street	...	...	...	...	3	...	...	...
Clark terrace	2	...	...	...	7	...	...	...
Clementina street	1	...	...	...	6	...	...	...
Cliffe terrace	3	...	...	1	...	...	...	...
Clyde street.....	1	1	...	...	1	...	...	...
Coronation street	4	...	...	...	3	...	1	...
Cousin street	1	...	...	...	1	...	1	...
Coxon street	1	...	...	...	1	...	...	...
Crow street	...	1	...	...	1	...	...	...
Crowtree terrace.....	1	...	1	...	...	...	...	...
Crowtree road	1	...	...	...	1	...	...	...
Cumberland terrace	1	...	...	...	6	...	1	...
D'Arcy street	...	...	2	...	2	...	2	...
D'Arcy terrace	1	1	...	...	5	...	3	...
Derby street	2	...	...	...	...	...	...	...
Derwent street	...	...	1	...	...	...	...	...
Durham road	1	...	...	...	1	1	...	1
East Hendon road	...	...	...	...	1	...	...	...
East Hendon terrace	...	...	...	...	1	...	...	...
East street	2	...	3	...	1	...	...	...
Eden street ..	...	...	...	...	2	1	...	...
Elms, The	...	...	...	...	1	...	...	...
Emma street	1	...	...	...	...	...	...	...
Esplanade West	...	...	...	...	...	...	...	1
Ethel street	...	...	...	...	1	...	...	...
Fenwick street	...	...	1	...	...	...	...	...
Ferguson street	...	...	...	...	3	1	1	...
Finchale terrace	...	...	...	...	7	...	...	...
Ford street	1	1	...	...	5	...	2	...
Fore street	...	...	1	...	...	...	...	...
Fowler place	...	...	1	...	...	...	...	...
Fowler terrace.....	1	...	...	...	3	...	2	...
Frederick street	1	...	1	...	...	...	...	...
Gray terrace.....	...	...	...	...	1	1	...	...
Green, The	...	...	...	...	...	...	1	...
Green place	...	...	1	...	...	...	...	...
Green terrace	1	1	1	...	...	...	...	...
Guildford street	1	...	2	...	2	1	...	...
Harrogate street.....	1	...	...	...	2	..	2	...
Hastings street	2	...	2	...	...	...	...	...
Hedworth place	...	...	...	...	...	1	...	...
Hedworth street.....	1	...	2	...	1	...	1	...
Hedworth terrace	1	...	...	...	...	...	...	...
Hendon Burn avenue	...	...	1	...	9	...	...	...

TABLE VI.—Continued.

Street.	1893.		1894.		1895.		1896.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Hendon road	14	1	3	...	5	1	...	...
Hendon street.....	4	1	2	...	9	2	2	...
Hendon Valley road	...	...	...	...	6	..	1	...
Henry street	4	...	1	...	30	...	4	2
Henry street East	5	...	2	..	16	...	4	..
Herrington street	...	...	...	..	5	...	...	...
High street West	...	...	1	...	4	...	...	...
Higher Grade School House.....	...	...	...	...	1	...	...	...
Hill street	...	1	...	...	1	...	...	...
Howick street ...	3	...	2	...	1	...	...	...
Hudson's buildings.....	1	...	...	...	1	...	...	...
Hudson road ...	...	...	...	...	...	...	1	...
Humbledon view.....	...	...	...	...	...	...	1	...
Infirmery, The	16	3	12	1	12	...	...	...
John street	1	...	...	...	...	...	...	...
King street	1	...	...	...	2	...	...	...
Lawrence street	3	...	4	...	13	1	...	...
Lilburn street	...	...	...	...	...	...	1	...
Laura street.....	...	...	1	...	...	...	...	...
Lawton street.....	...	...	2	...	1	...	...	...
Little Villiers street	...	...	3	...	...	...	...	...
Littlegate.....	...	1	...	...	1	...	...	...
Lodge terrace.....	...	...	1	...	1	..	1	...
Lorne terrace	...	...	..	...	...	...	1	...
Mainsforth terrace.....	2	...	3	...	1	...	2	...
Mainsforth terrace West	...	...	...	...	2	..	1	...
Marion street	1	...	...	...	1	...	...	...
Marshall street	...	...	1	...	3	...	1	...
Mary street	...	...	1	...	...	...	...	...
Meaburn street	2	...	...	...	...	...	...	...
Middle street	2	...	2	...	...	...	...	...
Montpellier terrace.....	1	...	...	...	...	...	...	...
Moor street	1	...	2	...	3	...	...	...
Mordey street	1	...	1	...	6	...	1	...
Mowbray road.....	...	...	...	...	3	...	...	...
Mowbray villa.....	...	...	...	...	...	...	1	...
Murton street	...	...	...	...	1	...	...	...
Mulgrave street	...	...	...	...	...	...	1	...
Nelson street	...	...	3	...	1	...	...	...
Nicholson street	1	...	...	...	1	...	...	...
Nile street	4	1	...	...	...	...	1	...
Noble street.....	2	...	1	...	1	...	...	...
Norfolk street	...	...	...	...	...	...	1	...
Northcote avenue	...	...	...	...	...	...	1	...
North Durham street.....	4	...	2	...	1	...	...	...
Norman street.....	4	1	2	...	...	...	1	1
Northumberland street	...	2	5	1	...	...	..	...
Oaks, The, West.....	...	...	1	...	...	...	...	...
Ocean road	1	...	...	...	...	...	...	...
Old Mill road	2	...	...	...	...	...	...	...
Page street	2	...	...	...	...	...	1	...
Parade, The.....	2	...	...	1	5	...	1	...
Park Place West.....	1	...	...	...	...	...	..	...

TABLE VI.—Continued.

Street.	1893.		1894.		1895.		1896.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Park road.....	...	...	1	...	...	...	...	..
Peel street	2	...	...	...	1	...	...	...
Pemberton street	7	...	3	...	...	...	...	...
Percy terrace	...	...	...	...	1	...	...	...
Phoenix Glass Works.....	...	...	1	...	...	...	...	...
Princess street.....	...	...	...	...	1	...	...	...
Railway street.....	...	...	1	...	...	...	1	...
Randolph street	1	...	...	1	...	...	...	...
Rectory terrace	1	...	1	...	...	...	...	...
Reynoldson street	1	...	...	...	1	...	...	...
Ridley terrace	1	...	2	...	1	...	...	...
Robinson street	2	...	...	...	5	...	...	...
Robinson terrace.....	18	...	...	...	5	...	2	...
Rosalie terrace	...	...	2	...	...	...	...	...
St. Leonard's street	1	...	1	...	...	...	...	...
St. George's square.....	...	...	...	...	...	...	...	1
Salem hill South.....	...	...	...	...	2	...	...	...
Salem road	...	...	...	...	1	...	...	...
Salem street.....	...	...	...	...	1	...	...	...
Sans close.....	1	...	...	...	...	...	...	...
Sans street	4	...	...	...	...	...	...	...
Sans street South	1	...	...	...	...	...	1	...
Salisbury street	...	...	...	...	1	...	...	...
Sea Bank cottage	...	...	...	...	...	...	1	...
Short street	1	...	...	...	...	...	...	...
Southgate.....	1	...	1	...	...	...	...	...
South Durham street.....	7	...	5	...	5	...	1	...
South Moor street	...	...	...	...	2	...	...	...
South street.....	...	...	2	...	1	...	...	...
Spelter Works road.....	...	...	...	...	1	...	...	...
Stockton road	2	...	...	...	...	...	...	...
Suffolk street	...	...	...	...	6	...	...	...
Sussex street	7	...	2	...	3	...	...	...
Tatham street.....	...	...	...	1	...	1	2	...
Tees street	1	...	4	...	3	...	3	...
Thompson street.....	3	1	1	...	4	...	5	1
Thornhill cottage	...	...	...	...	1	...	...	...
Thornhill crescent	...	...	1	...	...	...	...	...
Thornhill terrace.....	1	...	...	...	...	1	...	...
Tower street	1	...	...	...	1	...	1	...
Tower street West	1	...	...	...	1	...	...	...
Tunstall road	1	...	...	...	...	...	...	...
Tunstall vale	3	...	...	...	...	...	...	...
Tweed street	2	...	...	...	...	...	2	...
Tyne street	1	...	2	...	...	...	...	...
Upper Sans street	1	...	2	...	...	...	...	...
Vane terrace	2	...	1	...	...	...	...	...
Vane terrace West	1	...	...	...	...	...	...	...
Villette road	...	...	1	...	2	...	...	...
Villiers street	2	...	...	...	1	...	1	...
Wall street	3	...	4	...	...	...	...	...
Walworth street	1	...	1	...	5	...	2	...

TABLE VI.—Continued.

Street.	1893.		1894.		1895.		1896.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Ward street.....	...	...	1	...	22	...	...	...
Wear street	17	1	3	1	7	1	2	...
West street	1	...	...	...	...	1	...	...
West Sunnyside	...	...	...	...	1	...	...	...
Whitehouse crescent	...	...	...	...	2	...	...	...
Whitehouse road.....	...	...	1	...	6	...	1	...
Willows, The	...	...	...	...	...	...	2	...
Winchester terrace.....	...	...	...	...	5	...	1	...
Woodbine street	10	...	7	...	7	...	3	...
Woodbine terrace	...	...	1	...	...	...	...	1
Yorke street.....	1	1	1	...	2	...	...	...
Zion street	3	...	6	...	1	...	...	...

MONKWEARMOUTH DISTRICT.

Street.	1893.		1894.		1895.		1896.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Albany street	1	...	1	...	1	...	...	...
Barclay street ...	3	...	2	...	...	...	1	...
Barrington street	3	...	3	1	2	...	2	...
Beatrice street.....	...	...	...	...	1	...	...	...
Bond street	6	...	1	...	6	...	2	...
Bonner's field	...	...	4	...	1	1	...	...
Black Cock open.....	1	...	...	...	...	...	...	...
Bloomfield street.....	1	...	1	1	1	...	...	...
Brandling street	...	...	1	...	3	...	...	...
Brewery bank	1	...	3	1	1	...	...	...
Bright street	5	...	3	2	...	...	2	...
Brooke street	5	...	1	...	2	...	2	...
Byron street.....	1	...	3	...	...	...	1	...
Cage hill	1	1	...	...	...	...	...	...
Causeway, The.....	...	...	...	1	...	...	1	...
Charles street	2	...	...	...	1	...	...	...
Chilton street	2	...	...	...	1	...	...	...
Church street	4	2	3	...	8	...	...	...
Cooper street	...	...	...	...	...	...	...	1
Colliery row.....	...	...	1	...	...	...	...	...
Colliery square	5	...	...	...	...	...	...	...
Crozier street	1	...	...	1	...	...	...	...
Dame Dorothy street..	2	...	7	...	6	3	1	...
Devonshire street ..	3	...	2	...	...	...	4	...
Dixon square	4	...	1	...	1	...	1	...
Dock street	2	1	3	...	6	...	2	2
Dock street East ..	3	...	6	...	2	...	2	...
Duke street.....	2	...	1	1	2	1	1	1
Dundas street	2	...	1	2	5	4	1	1

TABLE VI. – Continued.

Street.	1893.		1894.		1895.		1896.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Eglinton street	4	...	...	...	1	...	2	...
Ellerslie terrace	...	...	1	...	...	...	...	...
Featherstone street	...	...	...	...	...	...	2	...
Finsbury street	...	...	2	...	...	...	1	...
Folley end	...	...	1	...	...	...	...	...
Forster street	1	...	...	...	1	1	...	...
Francis street	...	...	...	...	...	...	...	1
Fulwell road	6	...	2	...	4	...	3	...
Garden court	...	...	1	...	...	...	...	...
George street	...	...	...	...	3	...	...	...
Gladstone street	3	...	4	...	3	...	2	...
Gosforth street	3	1	3	1	3	1	1	...
Hallgarth square	2	...	...	...	2	...	1	...
Hamilton street	1	...	2	...	2	...	1	1
Hardwicke street	2	1	3	1	3	...	1	...
Hartington street	2	...	...	...	...	...	...	...
Hay street	...	...	2	...	...	...	...	...
Hedworth street.....	3	...	1	...	2	...	...	...
Hedworth place	...	1	1	...	...	1	...	...
Hodgson's buildings	...	...	2	...	...	...	...	...
Hood street	4	...	6	...	2	1	...	...
Howick place	1	...	...	...	2	...	1	...
Howick square	1	...	...	...	...	...	...	...
Howick street	2	1	1	...	1	...	...	...
Horatio street	...	...	...	...	...	...	...	1
Huddleston street	2	1	2	1	1	1	...	1
Liddell terrace.....	2	...	1	...	...	...	...	1
Linden terrace.....	...	...	1	...	...	...	...	...
Lochmaben terrace.....	1	...	...	...	...	...	...	...
Long row	1	...	1	...	5	...	3	...
Mill row	...	...	...	...	7	1	1	...
Millum place	1	...	...	...	1	...	...	...
Millum terrace	6	1	2	...	...	...	...	...
Monkwearmouth Hospital	...	...	2	...	...	...	...	...
Monk street	1	...	...	...	...	...	...	...
Mulgrave street	...	...	4	...	...	...	...	...
New Brandling street.....	...	...	1	...	5	1	...	...
Newcastle road	...	...	...	...	1	...	...	...
Normanby street.....	2	...	2	...	...	...	2	2
North Bridge street	...	...	2	...	...	...	...	...
North quay	...	1	1	...	1	...	...	...
North Wilson street	...	...	1	...	...	...	...	...
Osborne street.....	2	1	3	...	1	...	...	...
Palmer's hill	1	...	...	...	...	...	...	...
Pilgrim street	1	...	1	...	1	...	...	...
Rendlesham street	...	...	...	...	2	...	...	...
Richmond street.....	5	...	3	...	1	...	2	...
Ripon street.....	...	1	...	1	...	...	2	...
Roker avenue	4	...	1	...	4	2	2	...
Ross street	3	...	6	...	3	...	2	...
Rothsay street.....	1	...	7	1	1	...	1	1
Sheepfolds	1	1	...	...	1	...	...	...

TABLE VI.—Continued.

Street.	1893.		1894.		1895.		1896.	
	Enteric	Continued	Enteric	Continued	Enteric	Continued	Enteric	Continued
Society lane.....	...	...	1	...	...	...	1	...
Stobart street	2	...	6	...	1	...	...	...
Strand street	1	...	...	...	...	...	...	...
Thomas street.....	1	...	1	1	2	...	...	...
Tyzack's wharf	...	1	...	...	...	...	...	...
Union place.....	1	...	...	...	...	...	...	...
Victoria cottages.....	...	...	1	...	...	...	...	...
Victor street.....	5	3	9	...	16	6	6	3
Wallace street.....	...	...	1	...	...	...	...	...
Warwick street	...	...	...	...	1	1	...	...
Waterloo place.....	1	...	1	...	...	...	...	...
Wayman street	1	...	3	...	3	...	...	...
Whickham street	3	...	1	...	...	...	1	...
Whitburn street	15	1	1	...	1	...	2	...
Williamson street	2	...	...	...	1	...	...	...
Williamson terrace	2	...	...	...	1	...	...	...
Wilson street	5	...	2	...	2	1	...	...
Workman's hall	...	...	...	...	1	...	...	...
Wreath quay road	3	...	2	...	1	...	...	...
Yorke street.....	2	...	...	...	...	...	...	...
Zetland street	3	...	6	...	5	1	1	...

TABLE VII.

Showing the STATE of VACCINATION in the entire Districts of the Sunderland Union for the Year ending December, **1896**, and for the Ten preceding Years.

(AS FURNISHED BY MR. A. S. FOX, VACCINATION OFFICER.)

Year.	Births Registered.	Total Vaccinated.	Postponed by Medical Authority.	Died previous to Vaccination.	Removal into other Unions.
1886	5603	4925-4*	55	488	128
1887	5475	4739-9*	64	506	150
1888	5588	4826-5*	56	480	220
1889	5895	4794-4*	89	653	274
1890	6011	5001-12*	100	645	247
1891	6118	5021-10*	135	667	270
1892	6078	5063-11*	134	598	258
1893	5910	4624-14*	198	733	341
1894	5926	4494-11*	146	651	455
1895	6099	4325-25*	115	729	720
Average for 10 Years, 1886-95. }	5870	4781-10*	109	615	306
1896	6091	4523-23*	180	762	602

* Denotes insusceptibility

TABLE VIII.

Showing the Deaths in each Week from 1881 to 1896.

WEEKS.	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896
1st	58	52	61	53	53	47	39	52	60	57	73	64	57	55	56	41
2nd	60	44	65	49	56	42	48	36	58	69	58	65	59	58	52	35
3rd	57	50	66	55	63	61	56	51	54	53	60	60	56	70	81	39
4th	50	62	71	45	66	49	55	51	52	48	56	47	50	43	34	44
5th	70	54	82	61	64	60	48	51	50	75	52	53	49	43	54	44
6th	37	55	62	46	78	54	42	44	46	66	47	53	55	56	45	65
7th	65	53	49	61	91	75	55	36	55	72	62	40	49	52	54	50
8th	51	51	69	47	71	54	40	60	57	68	71	50	50	56	58	48
9th	50	52	58	56	101	51	38	34	49	69	75	49	49	39	45	50
10th	44	57	67	61	116	73	66	44	55	64	56	66	41	56	73	47
11th	41	52	60	56	106	55	67	56	36	69	54	66	60	45	72	65
12th	52	57	67	47	97	48	82	49	74	47	54	50	44	60	80	50
13th	46	47	72	45	96	38	55	60	49	57	59	58	54	52	61	60
14th	49	54	48	52	69	49	63	38	47	64	64	52	51	49	68	49
15th	55	58	59	54	79	36	45	45	59	51	70	66	65	47	50	74
16th	48	53	51	51	75	41	66	41	44	54	61	61	44	51	64	59
17th	36	51	48	52	57	43	49	46	36	59	59	62	55	47	52	62
18th	37	66	59	58	52	51	51	40	51	70	62	72	51	45	41	59
19th	47	56	46	50	60	39	38	43	45	56	62	58	46	42	36	63
20th	48	54	49	39	58	41	37	43	51	75	67	54	51	35	42	65
21st	45	52	58	49	50	47	39	47	54	70	62	70	50	49	44	66
22nd	53	34	36	52	45	40	37	40	48	50	55	49	36	53	49	65
23rd	40	42	53	48	33	46	49	46	55	45	57	46	60	49	39	33
24th	46	55	61	53	42	29	29	49	54	51	45	49	49	41	30	56
25th	32	54	48	48	44	39	37	41	47	53	49	45	64	54	45	58
26th	41	30	47	55	45	36	32	34	65	45	51	57	47	47	56	57
27th	41	44	38	56	52	32	32	46	55	47	50	59	52	46	45	57
28th	41	51	225	43	44	41	43	48	78	52	44	45	58	55	48	60
29th	51	57	47	56	51	38	39	36	69	47	67	50	78	55	53	58
30th	54	66	43	57	46	49	36	40	72	52	50	58	65	56	59	58
31st	65	57	49	52	57	48	60	34	70	52	54	61	72	45	42	80
32nd	54	72	49	42	61	40	50	33	73	46	61	35	66	58	63	58
33rd	37	70	61	58	48	58	61	34	76	59	67	49	80	80	58	58
34th	34	63	37	64	55	45	44	33	60	64	67	42	72	68	70	60
35th	50	70	45	67	56	50	55	52	58	58	51	46	67	56	82	40
36th	38	69	65	66	40	66	48	39	53	65	65	55	78	52	107	40
37th	38	87	62	61	41	65	55	36	66	57	70	54	77	64	99	40
38th	35	65	54	61	48	68	56	55	65	72	83	52	69	40	87	30
39th	37	70	58	43	39	49	48	41	71	65	58	53	80	54	78	40
40th	39	73	53	71	46	54	56	43	66	67	65	54	61	51	76	50
41st	45	66	41	73	45	47	46	63	72	60	57	43	52	58	68	50
42nd	45	78	42	55	41	52	63	74	61	66	59	54	65	59	52	40
43rd	47	75	52	39	34	33	45	56	59	72	63	34	41	70	73	40
44th	48	65	43	49	36	38	51	53	59	46	72	48	56	62	59	40
45th	37	74	52	49	45	37	36	49	64	49	83	48	72	63	54	50
46th	55	77	47	55	45	47	44	54	69	57	80	41	52	60	53	50
47th	43	109	45	61	52	38	43	47	67	63	81	49	72	65	40	40
48th	55	59	56	60	44	54	43	44	78	43	98	45	63	59	48	40
49th	41	81	50	73	42	50	44	33	56	69	79	61	62	71	36	40
50th	46	63	48	52	45	45	57	41	74	61	77	69	49	59	39	40
51st	42	65	49	55	50	49	58	67	56	51	68	48	57	54	53	40
52nd	50	86	45	67	47	45	53	57	62	85	63	59	65	60	47	30
53rd	...	...	...	52	...	...	...	...	...	58	...	...	...	...	...	60

TABLE VIIIA.

Showing the Death-Rates in each Week from 1881 to 1896.

WEEKS.	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891	1892	1893	1894	1895	1896
1st	25.6	23.5	27.0	22.7	22.5	19.7	16.3	21.2	24.3	22.9	28.6	25.1	22.1	21.1	21.2	15.5
2nd	26.5	19.9	28.2	21.0	23.8	17.7	19.9	14.8	23.6	27.7	23.0	25.5	22.8	22.2	19.7	13.0
3rd	25.2	22.6	28.6	23.6	26.7	25.4	23.1	20.8	22.0	21.5	23.7	23.6	21.7	26.8	30.7	14.5
4th	22.1	27.2	30.8	19.3	27.9	20.5	22.7	20.8	21.2	19.5	22.4	18.5	19.4	16.5	20.4	16.3
5th	30.9	23.7	35.5	26.1	27.1	25.1	19.9	20.8	20.4	29.9	20.7	20.8	19.0	16.5	20.4	16.3
6th	16.4	24.2	26.9	19.8	32.9	22.6	17.5	18.1	18.9	26.0	19.8	20.8	21.4	21.7	17.0	24.1
7th	28.7	23.5	21.3	26.1	37.9	31.2	22.7	14.9	22.3	28.7	24.7	15.7	19.0	20.2	20.4	18.5
8th	22.6	22.4	29.9	19.7	25.8	22.6	16.7	24.4	23.1	27.2	27.1	19.6	19.4	21.7	21.9	17.8
9th	22.1	22.9	25.2	24.0	42.5	21.4	15.9	14.1	20.0	27.6	29.6	19.2	19.0	15.1	17.0	18.5
10th	19.5	25.0	26.5	28.6	48.7	30.4	27.1	18.0	22.4	25.7	22.4	25.9	15.9	21.7	27.6	17.5
11th	18.2	22.9	25.6	25.2	44.3	23.0	27.5	22.8	15.0	27.6	21.7	25.9	23.3	17.5	27.2	24.2
12th	23.0	25.1	29.1	20.2	40.8	20.2	33.5	20.1	29.8	18.8	21.7	19.6	17.0	23.0	30.2	18.6
13th	20.4	20.7	31.2	19.3	40.4	16.1	22.7	24.4	20.1	23.0	23.6	22.8	21.0	19.9	23.0	22.3
14th	21.7	23.7	20.9	22.3	29.2	20.6	25.9	15.7	19.3	25.7	25.4	20.4	19.8	18.8	25.7	18.2
15th	24.3	25.5	25.6	23.1	33.3	15.2	18.7	18.4	23.9	20.3	27.7	25.9	25.2	18.0	18.9	27.5
16th	21.3	23.5	22.2	21.9	31.7	17.3	27.1	16.9	18.1	21.4	24.3	24.0	17.1	19.5	24.2	21.9
17th	16.0	22.4	20.9	22.3	34.2	18.1	20.4	18.9	15.0	23.7	23.6	24.4	21.4	18.0	19.6	23.0
18th	16.4	29.0	25.7	24.7	22.1	21.4	21.2	16.5	20.8	27.5	24.7	28.3	19.8	17.2	15.5	21.9
19th	20.8	24.6	19.3	21.5	25.5	16.5	16.0	17.7	18.5	22.6	24.7	22.8	17.9	16.1	13.6	23.0
20th	21.3	23.7	21.4	16.8	24.6	17.3	14.8	17.7	20.8	29.8	26.6	21.2	19.8	13.4	15.9	23.0
21st	20.1	22.9	25.2	21.0	21.1	19.8	16.4	19.3	22.0	27.9	23.3	27.5	19.4	18.8	16.6	24.5
22nd	23.7	15.0	15.8	22.3	19.2	16.9	15.6	16.5	19.7	20.3	21.8	19.2	14.0	20.3	18.5	24.2
23rd	17.9	18.5	23.1	20.6	14.2	19.4	20.4	18.9	22.4	18.4	22.6	18.0	23.3	18.8	14.7	14.1
24th	20.6	24.2	26.5	22.7	18.0	12.4	20.4	16.1	22.0	20.7	17.9	19.2	19.0	15.7	11.3	20.8
25th	14.3	23.7	20.9	20.6	18.8	16.5	15.6	16.9	19.3	21.5	19.4	17.7	24.8	20.6	17.0	21.9
26th	18.3	13.3	20.5	23.6	19.2	15.3	13.5	14.1	26.3	18.4	20.2	22.4	18.2	18.0	21.1	19.0
27th	18.3	19.8	16.9	24.0	22.1	13.6	13.5	18.9	22.4	19.2	19.8	23.2	20.2	17.6	17.0	21.2
28th	18.3	22.3	20.5	18.5	18.8	17.3	18.0	19.7	31.5	21.1	17.5	17.7	22.5	21.1	18.1	22.3
29th	22.8	24.6	20.5	24.1	21.7	16.1	16.4	14.9	27.8	19.2	22.6	19.6	30.3	21.1	20.0	21.5
30th	24.1	29.0	18.8	24.0	19.6	20.6	15.1	16.5	28.2	21.0	19.8	22.8	25.2	21.4	22.3	21.7
31st	29.0	25.0	17.6	22.3	24.2	20.2	24.8	14.1	29.8	21.1	21.4	23.9	27.9	17.6	15.8	31.2
32nd	24.1	31.6	21.3	18.1	25.9	16.5	20.8	13.7	29.3	18.5	24.2	13.7	25.7	22.2	23.8	21.2
33rd	16.5	30.8	26.6	24.8	20.5	24.3	25.2	14.1	30.5	23.7	26.6	19.2	31.0	30.6	21.9	19.7
34th	15.2	27.7	16.2	27.4	23.2	19.0	18.3	13.8	24.3	25.6	26.6	16.5	27.9	26.0	26.5	24.1
35th	22.8	30.8	19.6	28.6	23.8	21.0	22.8	21.0	23.5	23.4	20.2	18.0	26.0	21.4	31.0	17.5
36th	22.3	30.3	28.3	28.2	17.2	27.5	19.9	16.1	21.6	25.6	25.8	21.6	30.3	19.9	40.5	17.1
37th	17.0	40.1	27.0	26.1	17.6	27.1	22.8	14.9	26.7	23.0	27.8	21.2	29.9	24.5	37.4	17.8
38th	15.6	28.5	23.5	26.1	20.5	28.0	23.2	22.3	26.3	28.7	33.0	20.4	28.8	15.3	33.5	12.3
39th	16.5	30.7	25.2	18.5	16.7	20.6	19.9	16.9	28.6	25.6	23.0	20.8	31.0	20.6	29.1	14.8
40th	17.4	32.0	23.1	30.3	19.6	22.6	23.2	17.7	26.7	26.3	25.8	21.2	23.7	19.5	28.7	20.4
41st	20.1	28.9	17.9	31.2	19.2	19.8	19.1	25.6	29.0	24.1	22.6	16.9	20.2	22.2	25.7	21.5
42nd	20.1	34.2	18.4	23.6	17.6	21.4	26.0	29.9	24.7	26.0	23.4	21.2	25.2	22.6	19.7	17.8
43rd	21.0	32.9	22.7	16.8	14.7	14.0	18.9	22.9	23.9	28.7	25.0	13.4	15.9	26.8	27.6	17.4
44th	21.4	28.5	18.8	21.0	15.5	16.1	21.2	21.7	23.9	18.8	28.6	18.9	21.7	23.7	22.3	16.3
45th	16.5	32.5	22.7	21.0	19.2	15.7	15.2	20.1	25.9	19.9	33.0	18.8	27.9	24.1	20.4	20.7
46th	24.6	30.8	20.5	23.6	19.2	19.8	18.3	22.0	27.8	23.0	31.8	16.1	20.2	22.9	20.0	20.1
47th	19.2	47.9	19.6	26.1	22.1	16.1	18.9	19.3	27.4	25.2	32.2	19.2	27.9	24.9	15.1	18.2
48th	24.6	26.0	24.3	25.8	18.8	22.6	17.9	18.1	31.3	17.6	39.0	17.7	24.4	22.6	18.1	16.3
49th	18.3	35.6	21.8	31.2	18.0	21.0	19.3	27.1	22.8	27.6	31.4	24.0	24.0	27.2	13.9	15.9
50th	20.6	27.7	20.9	22.3	19.2	19.0	23.6	16.9	29.8	25.5	30.6	27.1	19.0	22.6	14.7	15.2
51st	18.8	28.6	21.3	23.6	21.3	20.6	24.0	27.2	22.8	20.3	27.0	18.8	22.1	20.6	20.0	15.2
52nd	22.3	37.7	19.6	28.6	20.1	19.0	22.0	23.2	25.1	33.1	25.0	23.2	25.2	22.9	17.6	14.1
53rd	...	...	...	22.3	...	...	...	...	...	23.4	...	...	...	...	...	23.0

N.B.--The rates from 1882 to 1890 have been corrected on populations based on the 1891 Census.

TABLE IX.
Meteorological Observations from January to March, 1896.

JANUARY.						FEBRUARY.						MARCH.					
Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.
		Highest	Lowest					Highest	Lowest					Highest	Lowest		
1	29.977	52.0	42.0	SSW	.00	1	30.511	43.0	35.0	NW	.00	1	29.421	48.0	35.0	SW	
2	29.856	53.0	45.0	W	.05	2	30.386	39.0	35.0	W	.00	2	29.210	46.0	38.0	NNW	
3	30.066	49.0	43.0	W	.00	3	30.654	43.0	29.0	WSW	.00	3	28.502	42.0	37.0	W	
4	30.282	44.0	40.0	SE	.00	4	30.422	48.0	33.0	SW	.00	4	28.535	54.0	43.0	W	
5	30.300	39.0	37.0	SW	.00	5	30.318	51.0	37.0	W	.00	5	29.227	48.0	37.0	NW	
6	30.500	43.0	30.0	W	.00	6	30.338	52.0	42.0	W	.00	6	29.203	43.0	40.0	W	
7	30.615	46.0	34.0	NW	.00	7	30.255	51.0	42.0	SW	.00	7	29.812	57.0	37.0	NW	
8	30.709	42.0	41.0	NNE	.05	8	29.808	50.0	47.0	SW	.04	8	29.595	58.0	40.0	W	
9	30.923	40.0	35.0	NNE	.01	9	29.935	51.0	40.0	SW	.00	9	29.839	48.0	41.0	W	
10	30.741	42.0	30.0	WNW	.00	10	30.175	51.0	41.0	SW	.00	10	30.157	53.0	38.0	SW	
11	30.540	42.0	33.0	WNW	.00	11	30.171	53.0	47.0	WSW	.00	11	29.792	53.0	44.0	NW	
12	30.222	41.0	35.0	WSW	.00	12	29.948	53.0	42.0	SW	.00	12	30.044	42.0	30.0	NW	
13	29.681	41.0	37.0	NW	.27	13	30.409	46.0	41.0	E	.00	13	29.861	40.0	31.0	WNW	
14	29.510	39.0	33.0	NW	.09	14	30.286	51.0	39.0	W	.00	14	29.732	41.0	36.0	ESE	
15	28.746	40.0	34.0	W	.05	15	29.398	45.0	40.0	NW	.02	15	29.628	50.0	33.0	S	
16	29.683	50.0	41.0	WNW	.25	16	30.523	47.0	39.0	W	.00	16	29.142	51.0	46.0	SW	
17	29.813	50.0	47.0	W	.00	17	30.462	35.0	34.0	SSW	.00	17	29.608	53.0	45.0	SW	
18	29.805	49.0	43.0	WSW	.00	18	30.251	36.0	25.0	W	.00	18	29.524	47.0	33.0	W	
19	30.091	45.0	40.0	WSW	.00	19	29.784	48.0	25.0	SW	.00	19	29.792	50.0	34.0	NW	
20	30.434	44.0	32.0	NW	.00	20	29.582	49.0	35.0	SSE	.00	20	29.551	54.0	43.0	SSW	
21	30.484	42.0	29.0	WSW	.00	21	29.571	47.0	40.0	W	.03	21	29.647	55.0	40.0	NW	
22	30.080	41.0	34.0	WNW	.00	22	30.037	40.0	38.0	SE	.00	22	29.945	55.0	42.0	W	
23	30.185	43.0	24.0	W	.00	23	30.369	41.0	36.0	SSE	.00	23	29.840	55.0	38.0	SW	
24	29.811	48.0	38.0	SSW	.01	24	30.451	41.0	29.0	S	.00	24	29.814	58.0	41.0	SW	
25	29.771	44.0	42.0	N	.01	25	30.263	35.0	28.0	S	.00	25	29.585	53.0	46.0	WNW	
26	30.213	48.0	41.0	SSE	.24	26	29.950	40.0	27.0	SW	.00	26	29.434	45.0	43.0	NW	
27	30.039	51.0	44.0	S	.00	27	29.986	50.0	30.0	SW	.00	27	29.842	46.0	37.0	WNW	
28	30.204	45.0	35.0	W	.00	28	29.884	50.0	39.0	W	.00	28	29.358	46.0	37.0	NW	
29	30.698	46.0	36.0	SW	.00	29	30.107	50.0	33.0	SE	.00	29	29.748	45.0	38.0	N	
30	30.667	44.0	43.0	SW	.00							30	30.069	46.0	34.0	N	
31	30.709	46.0	38.0	WSW	.00							31	30.098	51.0	32.0	W	
Mean Height of Barometer in Month, 30.173. Adopted Mean Temperature, 41.0. Rainfall, 1.03 in.						Mean Height of Barometer in Month, 30.490. Adopted Mean Temperature, 38.1. Rainfall, 0.09 in.						Mean Height of Barometer in Month, 29.506. Adopted Mean Temperature, 4 Rainfall, 1.88 in.					

TABLE XX.—CONTINUED.

Meteorological Observations from April to June, 1896.

APRIL.						MAY.						JUNE.					
Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.
		Highest	Lowest					Highest	Lowest					Highest	Lowest		
1	30·054	46·0	45·0	N	·00	1	30·127	49·0	37·0	NNE	·00	1	29·890	60·0	41·0	WNW	·00
2	30·119	49·0	30·0	N	·03	2	30·327	50·0	41·0	N	·00	2	29·717	64·0	47·0	SE	·00
3	30·072	55·0	37·0	NNW	·00	3	30·404	52·0	38·0	N	·00	3	29·689	63·0	50·0	NNW	·05
4	30·045	57·0	42·0	NW	·00	4	30·391	56·0	55·0	ESE	·00	4	29·752	60·0	50·0	NNE	·25
5	30·109	57·0	47·0	NW	·05	5	30·260	61·0	42·0	NW	·00	5	29·683	56·0	49·0	SE	·00
6	30·063	61·0	49·0	W	·00	6	30·320	58·0	40·0	NE	·00	6	29·727	55·0	47·0	NE	·25
7	30·139	58·0	49·0	NW	·08	7	30·395	50·0	46·0	N	·00	7	29·654	57·0	49·0	NE	·19
8	29·079	59·0	51·0	WNW	·00	8	29·315	52·0	43·0	NNW	·00	8	29·532	64·0	51·0	SE	·04
9	30·071	61·0	46·0	WNW	·00	9	30·281	50·0	44·0	NE	·00	9	29·591	60·0	49·0	SE	·00
10	30·066	47·0	46·0	NW	·10	10	30·237	63·0	41·0	NE	·00	10	29·565	57·0	50·0	NNW	·04
11	29·589	47·0	45·0	W	·00	11	30·321	63·0	41·0	S	·00	11	29·493	66·0	50·0	NW	·00
12	29·638	44·0	43·0	NW	·02	12	30·321	62·0	49·0	NE	·00	12	30·007	67·0	50·0	NE	·00
13	29·996	45·0	42·0	NW	·00	13	30·315	65·0	40·0	NNE	·00	13	30·007	68·0	50·0	ENE	·00
14	29·955	45·0	35·0	NNW	·00	14	30·060	72·0	44·0	NW	·06	14	30·047	62·0	53·0	SE	·00
15	30·024	47·0	32·0	NE	·08	15	30·049	55·0	47·0	NW	·00	15	29·969	73·0	48·0	SE	·00
16	29·868	52·0	39·0	S	·04	16	30·177	62·0	43·0	NNW	·00	16	29·665	76·0	72·0	SE	·06
17	29·895	57·0	43·0	W	·00	17	30·072	66·0	47·0	WNW	·00	17	29·507	71·0	57·0	S	·03
18	30·243	57·0	39·0	NW	·00	18	30·135	63·0	47·0	SE	·00	18	29·890	69·0	50·0	W	·04
19	30·326	58·0	40·0	W	·00	19	29·949	59·0	46·0	WNW	·23	19	30·012	67·0	51·0	WNW	·00
20	30·394	54·0	42·0	N	·00	20	29·734	50·0	42·0	NW	·15	20	29·943	68·0	54·0	SW	·00
21	30·463	61·0	41·0	SW	·00	21	30·018	54·0	38·0	NW	·33	21	29·981	64·0	49·0	WNW	·00
22	30·236	55·0	45·0	NW	·05	22	29·792	54·0	47·0	NW	·10	22	30·067	59·0	46·0	W	·04
23	30·159	52·0	43·0	N	·00	23	29·876	54·0	50·0	NW	·00	23	29·927	63·0	47·0	SSW	·03
24	30·132	63·0	37·0	SE	·00	24	30·411	56·0	43·0	N	·00	24	29·881	63·0	53·0	NW	·00
25	29·812	62·0	43·0	W	·00	25	30·423	56·0	48·0	NNE	·00	25	29·978	57·0	52·0	NNW	·00
26	29·836	60·0	47·0	NW	·00	26	30·437	55·0	43·0	NNE	·00	26	30·128	63·0	49·0	N	·00
27	29·737	61·0	47·0	WSW	·00	27	30·359	51·0	47·0	N	·00	27	30·013	79·0	51·0	NW	·00
28	29·620	56·0	44·0	NW	·08	28	30·316	62·0	44·0	NE	·00	28	29·929	68·0	56·0	W	·00
29	29·476	49·0	38·0	NW	·07	29	30·045	65·0	48·0	WNW	·00	29	29·977	63·0	42·0	NW	·00
30	29·752	49·0	38·0	NW	·00	30	30·115	66·0	48·0	NNE	·00	30	29·711	64·0	54·0	WNW	·00
						31	30·066	69·0	44·0	E	·00						
Mean Height of Barometer in Month, 29·967. Adopted Mean Temperature, 47·4. Rainfall, 0·60 in.						Mean Height of Barometer in Month, 30·163. Adopted Mean Temperature, 51·0. Rainfall, 0·87 in.						Mean Height of Barometer in Month, 29·831. Adopted Mean Temperature, 57·3. Rainfall, 1·02 in.					

TABLE XX.—CONTINUED.

Meteorological Observations from July to September, 1896.

JULY.						AUGUST.						SEPTEMBER.					
Date.	Barometer.	Thermo-meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo-meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo-meter.		Direction of Wind.	Rainfall.
		Highest	Lowest					Highest	Lowest					Highest	Lowest		
1	29.856	60.0	48.0	N	.00	1	29.837	57.0	53.0	NNW	.00	1	29.901	59.0	54.0	NW	
2	29.772	60.0	48.0	N	.03	2	30.080	59.0	52.0	N	.00	2	29.725	62.0	55.0	NW	
3	29.737	69.0	43.0	S	.00	3	30.034	61.0	51.0	SSW	.00	3	29.683	62.0	55.0	NNE	
4	29.727	64.0	52.0	W	.02	4	29.929	59.0	52.0	N	.02	4	29.802	62.0	54.0	NNE	
5	29.989	72.0	50.0	W	.00	5	30.036	59.0	48.0	N	.02	5	29.804	58.0	54.0	NE	
6	29.984	74.0	50.0	WSW	.00	6	30.078	62.0	48.0	NW	.00	6	29.935	58.0	52.0	N	
7	29.775	67.0	55.0	SW	.01	7	30.020	58.0	53.0	N	.15	7	30.037	59.0	50.0	N	
8	29.853	68.0	52.0	NE	.07	8	30.028	58.0	50.0	NE	.05	8	29.946	61.0	52.0	ESE	
9	29.762	74.0	54.0	SSW	.50	9	30.126	58.0	50.0	NNE	.00	9	29.641	60.0	55.0	ENE	
10	30.061	61.0	54.0	N	.00	10	30.207	62.0	52.0	NNE	.09	10	29.551	63.0	55.0	SSE	
11	30.220	73.0	50.0	SE	.00	11	30.093	70.0	55.0	W	.00	11	29.671	60.0	55.0	E	
12	30.131	78.0	54.0	WSW	.00	12	30.115	66.0	54.0	W	.08	12	29.724	59.0	53.0	SSE	
13	30.127	69.0	53.0	SE	.00	13	29.857	70.0	60.0	W	.00	13	29.226	62.0	51.0	S	
14	29.909	72.0	56.0	SW	.00	14	29.807	65.0	52.0	WSW	.04	14	29.210	65.0	51.0	S	
15	29.953	57.0	54.0	N	.01	15	29.872	62.0	51.0	NE	.00	15	29.560	63.0	47.0	SW	
16	30.033	60.0	47.0	N	.00	16	29.989	61.0	49.0	NW	.00	16	29.679	64.0	47.0	W	
17	30.225	62.0	46.0	NE	.00	17	30.029	65.0	42.0	S	.05	17	29.801	63.0	48.0	SW	
18	30.144	70.0	65.0	W	.00	18	29.817	65.0	54.0	W	.00	18	29.546	63.0	47.0	W	
19	30.017	80.0	60.0	W	.00	19	29.777	61.0	52.0	W	.05	19	29.432	58.0	47.0	W	
20	29.909	78.0	57.0	SW	.00	20	29.829	65.0	52.0	W	.00	20	29.496	56.0	43.0	NE	
21	29.742	78.0	53.0	SSE	.02	21	29.725	62.0	54.0	NW	.00	21	29.415	59.0	37.0	S	
22	29.756	60.0	49.0	NW	.02	22	29.958	65.0	48.0	W	.00	22	29.112	57.0	47.0	SE	
23	29.837	65.0	45.0	W	.30	23	29.950	65.0	56.0	NW	.16	23	28.970	61.0	51.0	WNW	
24	29.725	66.0	53.0	SW	.64	24	29.545	67.0	53.0	W	.00	24	29.589	56.0	44.0	WNW	
25	29.767	68.0	54.0	SE	.35	25	29.607	62.0	47.0	W	.00	25	28.831	52.0	48.0	E	
26	29.454	70.0	53.0	W	.04	26	29.477	57.0	44.0	NW	.03	26	29.608	66.0	44.0	SSW	
27	29.749	60.0	50.0	WNW	.00	27	29.821	58.0	45.0	NNW	.00	27	29.306	64.0	50.0	SSW	
28	30.061	59.0	45.0	E	.00	28	30.072	62.0	45.0	W	.02	28	29.593	54.0	42.0	W	
29	29.856	66.0	48.0	SE	.05	29	29.855	65.0	57.0	SW	.00	29	29.876	59.0	39.0	SW	
30	29.800	62.0	55.0	E	.02	30	29.703	61.0	53.0	SSW	.17	30	30.317	64.0	43.0	W	
31	29.900	60.0	54.0	N	.00	31	29.873	63.0	53.0	E	.01						
Mean Height of Barometer in Month, 29.962. Adopted Mean Temperature, 59.6. Rainfall, 2.10 in.						Mean Height of Barometer in Month, 29.908. Adopted Mean Temperature, 56.6. Rainfall, 0.94 in.						Mean Height of Barometer in Month, 29.589. Adopted Mean Temperature, 56.6. Rainfall, 1.93 in.					

TABLE XX.—CONTINUED.

Meteorological Observations from October to December, 1896.

OCTOBER.						NOVEMBER.						DECEMBER.					
Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.	Date.	Barometer.	Thermo- meter.		Direction of Wind.	Rainfall.
		Highest	Lowest					Highest	Lowest					Highest	Lowest		
1	30·291	58·0	48·0	SW	·04	1	29·840	48·0	36·0	NE	·05	1	30·052	41·0	27·0	SSE	·00
2	29·923	63·0	51·0	S	·00	2	29·892	46·0	39·0	NNW	·22	2	29·693	45·0	43·0	SSE	·24
3	29·814	58·0	51·0	W	·00	3	29·893	44·0	38·0	WNW	·01	3	29·405	46·0	41·0	SSE	·34
4	29·215	58·0	52·0	WSW	·00	4	30·254	48·0	43·0	W	·00	4	29·234	47·0	38·0	S	·35
5	29·141	52·0	39·0	W	·00	5	30·481	47·0	30·0	WSW	·00	5	29·943	46·0	44·0	ESE	·22
6	29·359	51·0	37·0	SW	·12	6	30·303	46·0	29·0	WSW	·04	6	28·803	45·0	40·0	ESE	·20
7	29·559	61·0	40·0	SW	·24	7	29·757	46·0	35·0	W	·15	7	28·966	44·0	42·0	W	·15
8	29·049	55·0	50·0	SSW	·01	8	29·788	45·0	40·0	NE	·19	8	29·425	45·0	35·0	WSW	·00
9	29·399	59·0	36·0	WSW	·01	9	30·230	43·0	31·0	W	·04	9	29·516	46·0	39·0	SE	·06
10	29·706	41·0	40·0	ENE	·89	10	30·147	49·0	36·0	SW	·14	10	29·727	47·0	44·0	SE	·06
11	29·627	46·0	33·0	W	·80	11	29·962	51·0	41·0	WSW	·05	11	29·705	47·0	43·0	W	·00
12	29·882	46·0	42·0	N	·32	12	29·913	50·0	47·0	NW	·00	12	29·669	42·0	44·0	S	·02
13	30·208	51·0	45·0	WNW	·13	13	29·704	46·0	41·0	SW	·01	13	29·473	43·0	38·0	W	·06
14	30·390	53·0	44·0	E	·10	14	29·579	45·0	38·0	SSE	·04	14	29·243	44·0	31·0	E	·21
15	30·234	51·0	48·0	NE	·04	15	29·127	48·0	35·0	W	·18	15	29·635	40·0	37·0	NE	·00
16	30·272	52·0	47·0	NW	·04	16	29·821	49·0	36·0	SSE	·00	16	29·629	37·0	31·0	WNW	·00
17	29·829	49·0	46·0	NW	·01	17	30·060	45·0	30·0	W	·00	17	29·472	40·0	30·0	WSW	·35
18	29·133	44·0	37·0	NW	·24	18	29·590	45·0	34·0	S	·12	18	29·497	41·0	34·0	ENE	·55
19	29·154	46·0	37·0	E	·02	19	29·972	46·0	34·0	W	·00	19	29·761	41·0	32·0	WNW	·08
20	29·247	47·0	34·0	WNW	·45	20	29·787	47·0	38·0	W	·00	20	30·187	41·0	34·0	SE	·05
21	29·350	46·0	37·0	W	·58	21	30·249	52·0	39·0	WSW	·00	21	30·135	41·0	37·0	ENE	·21
22	29·571	46·0	35·0	NW	·70	22	30·391	53·0	41·0	WSW	·00	22	29·913	38·0	33·0	WSW	·00
23	29·843	42·0	32·0	W	·00	23	30·437	49·0	40·0	W	·00	23	30·122	39·0	31·0	W	·00
24	29·301	50·0	34·0	SW	·06	24	30·513	46·0	44·0	W	·00	24	29·906	41·0	28·0	SW	·18
25	29·127	42·0	32·0	SSW	·00	25	30·638	45·0	41·0	W	·00	25	30·005	51·0	37·0	W	·08
26	29·291	46·0	30·0	NW	·20	26	30·500	44·0	41·0	SE	·00	26	29·797	52·0	41·0	WNW	·00
27	29·503	44·0	37·0	WNW	·10	27	30·385	48·0	41·0	NE	·06	27	29·704	43·0	37·0	ESE	·35
28	29·636	46·0	33·0	W	·04	28	30·031	45·0	42·0	SE	·00	28	30·115	45·0	35·0	ESE	·02
29	29·568	47·0	31·0	W	·35	29	30·375	45·0	42·0	SE	·00	29	30·005	52·0	31·0	S	·00
30	29·760	47·0	36·0	NW	·07	30	30·316	38·0	26·0	W	·00	30	29·709	47·0	40·0	SSW	·00
31	29·667	48·0	37·0	WNW	·09							31	29·724	49·0	45·0	W	·00
Mean Height of Barometer in Month, 29·615. Adopted Mean Temperature, 44·7. Rainfall, 5·65 in.						Mean Height of Barometer in Month, 30·064. Adopted Mean Temperature, 42·1. Rainfall, 1·30 in.						Mean Height of Barometer in Month, 29·683. Adopted Mean Temperature, 38·4. Rainfall, 3·78 in.					

(B) TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS, COMING TO THE KNOWLEDGE OF THE MEDICAL OFFICER OF HEALTH, DURING THE YEAR 1896, IN THE URBAN SANITARY DISTRICT OF SUNDERLAND, CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES.

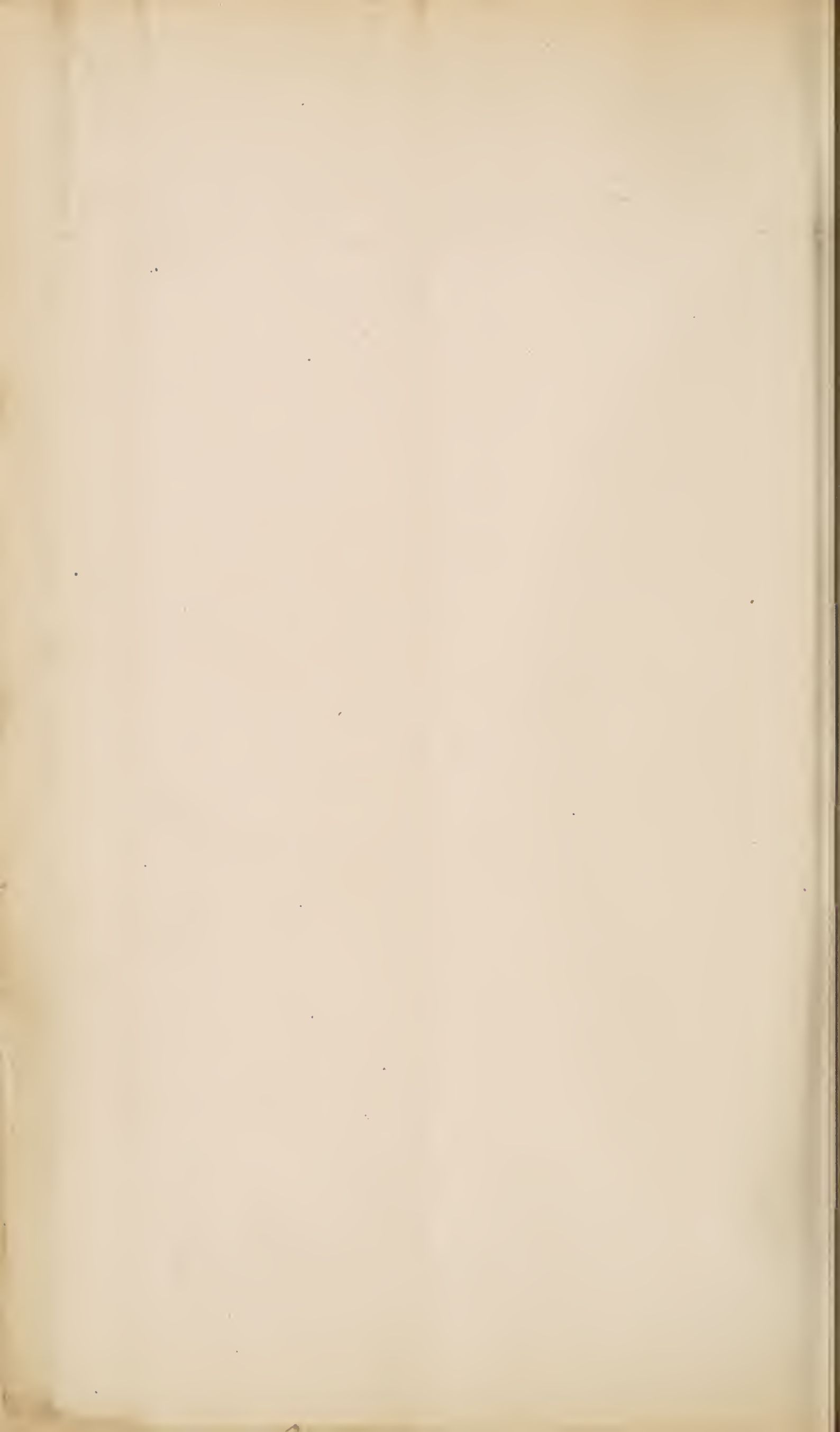
NAMES OF LOCALITIES adopted for the pur- pose of these Statis- tics.	POPULATION AT ALL AGES.		Registered Births.	Aged under 5 or over 5.	NEW CASES OF SICKNESS in each Locality, coming to the knowledge of the Medical Officer of Health.										NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES in the several Localities for Treatment in Isolation Hospitals.*												
	Census 1891.	Estimated to middle of 1896.			(d)	(e)	Smallpox.	Scarlatina.	Diphtheria.	Membranous Group.	Typhus Fever.	Enteric or Typhoid Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.	Smallpox.	Scarlatina.	Diphtheria.	Membranous Group.	Typhus Fever.	Enteric or Typhoid Fever.	Continued Fever.	Relapsing Fever.	Puerperal Fever.	Cholera.	Erysipelas.
Sunderland	14,558	14,123	551	Under 5 5upwds	..	10	1	..	..	1	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..
Bishopwearmouth North.....	44,019	44,706		Under 5 5upwds	..	18	4	..	..	24	2	..	..	..	..	..	..	13	..	..	..	11	3	..	..	..	..	..
Bishopwearmouth South.....	46,367	50,687	1,461	Under 5 5upwds	..	84	3	..	..	5	2	..	..	..	..	..	38	..	..	..	2	..	..	..	..	..	..
Monkwearmouth	29,071	30,870		Under 5 5upwds	..	132	2	..	..	89	9	..	..	1	..	..	..	54	..	..	..	30	11	..	..	..	..	..
Totals	131,015	140,386	4,873	Under 5 5upwds	..	44	..	..	..	7	..	..	..	..	..	..	8	..	..	..	..	..	..	..	..	..	..
				Under 5 5upwds	..	75	5	..	..	60	13	..	..	7	..	..	..	11	..	..	..	25	4	..	..	..	..	..

*“Notification of Infectious Disease” has been compulsory in the Borough since September, 1885.

Borough Fever Hospital, Hylton Road, and Workhouse Fever Hospital, Chester Road, both in Bishopwearmouth North Registration District.







INFECTIOUS DISEASES

IN

SUNDERLAND

IN

1896.

Estimated Population

Sunderland Sub District	14,123
Bishopwearmouth, North	44,706
do. South	50,687
Monkwearmouth	30,870
Whole Borough	140,386

SCARLET FEVER CASES NOTIFIED

SCARLET

ENTERIC
CONTINUED
SMALLPOX

" " "
" " "
" " "

BROWN
BLUE
BLACK

DEATHS FROM DIARRHŒA ARE DEPICTED IN GREEN



Scale of One Half Mile

0 100 200 300 400 500 600 700 800 900 1000 Yards

Town Hall Hill
Municipal Buildings



COUNTY BOROUGH OF SUNDERLAND.
METEOROLOGICAL AND DISEASE CHART FOR 1896.

